

FIG. 1A

FIG. 1B

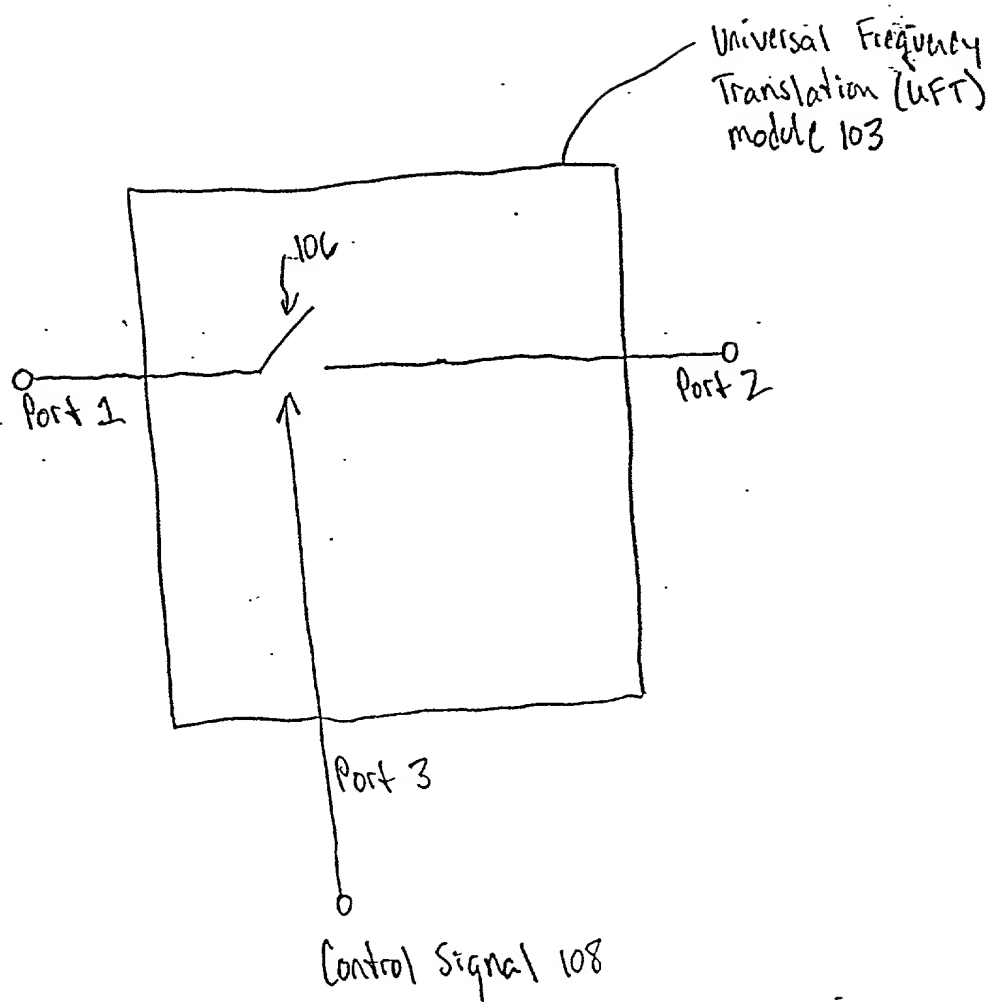


FIG. 1B

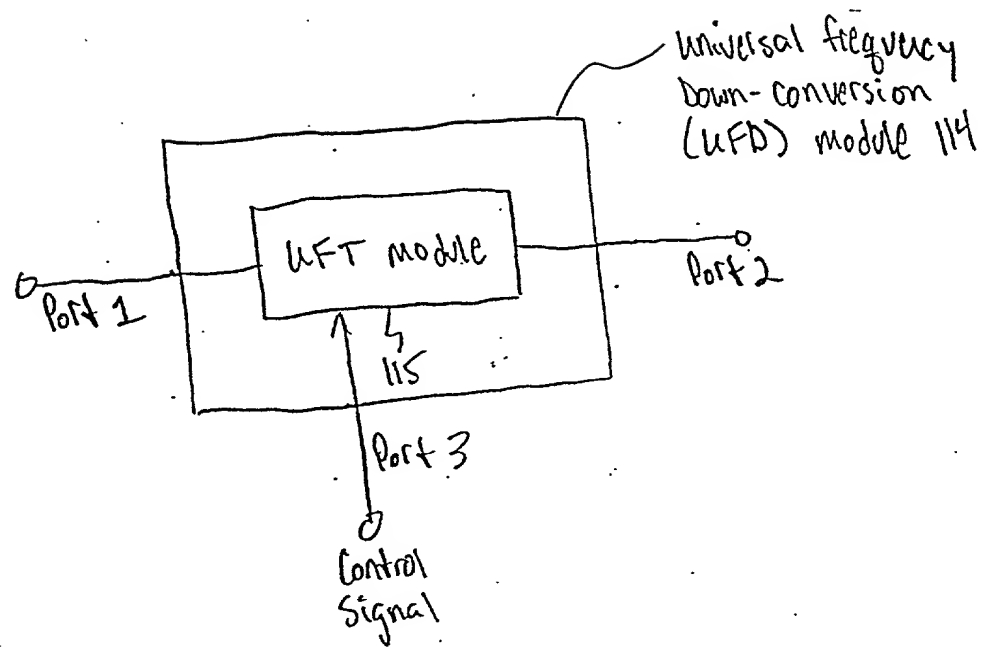


FIG. 1C

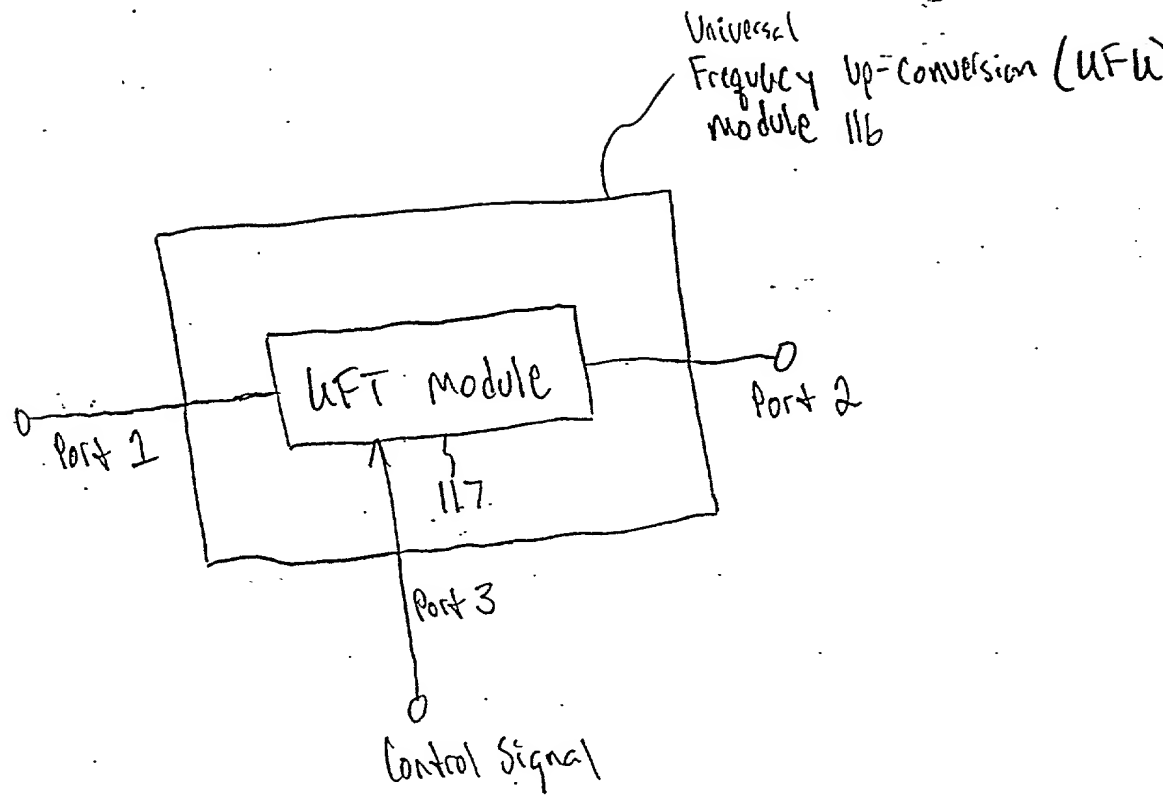


FIG. 10

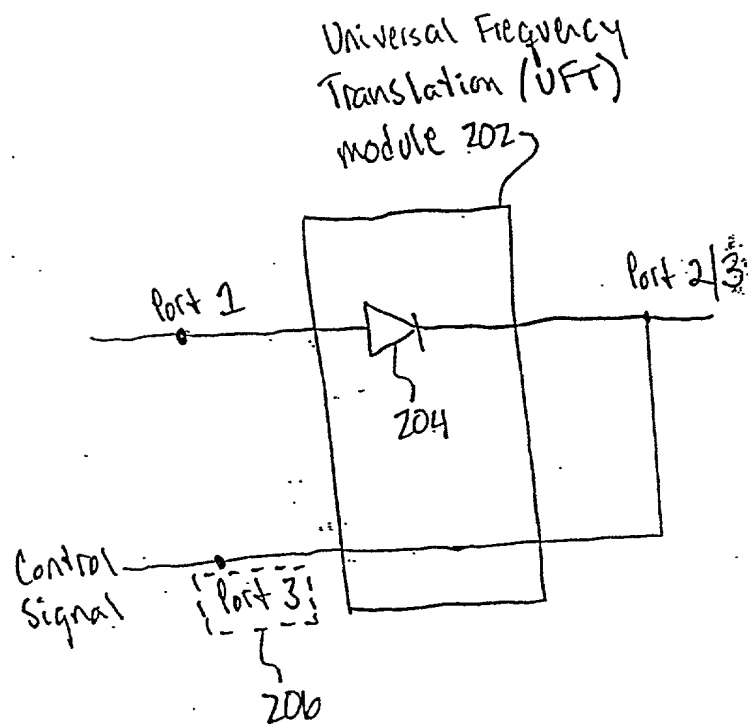


FIG. 2

FIG. 3

Universal Frequency  
Up-Conversion (UFU) module 300

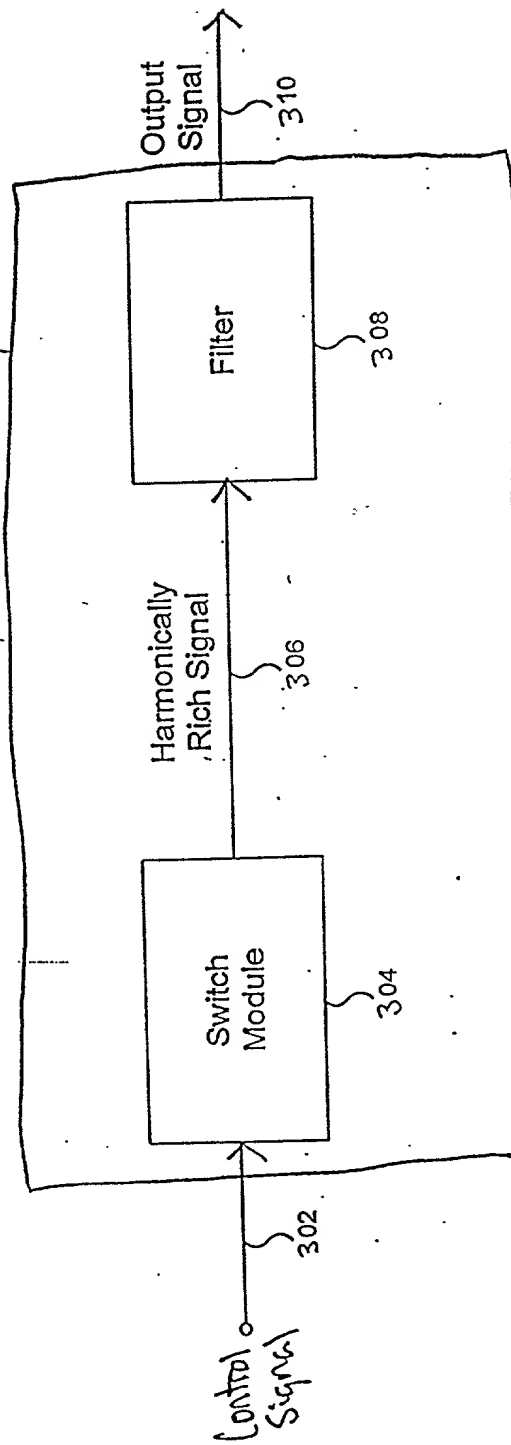


FIG. 3

FIG. 4

Universal Frequency  
Up-conversion (UFC) module 401

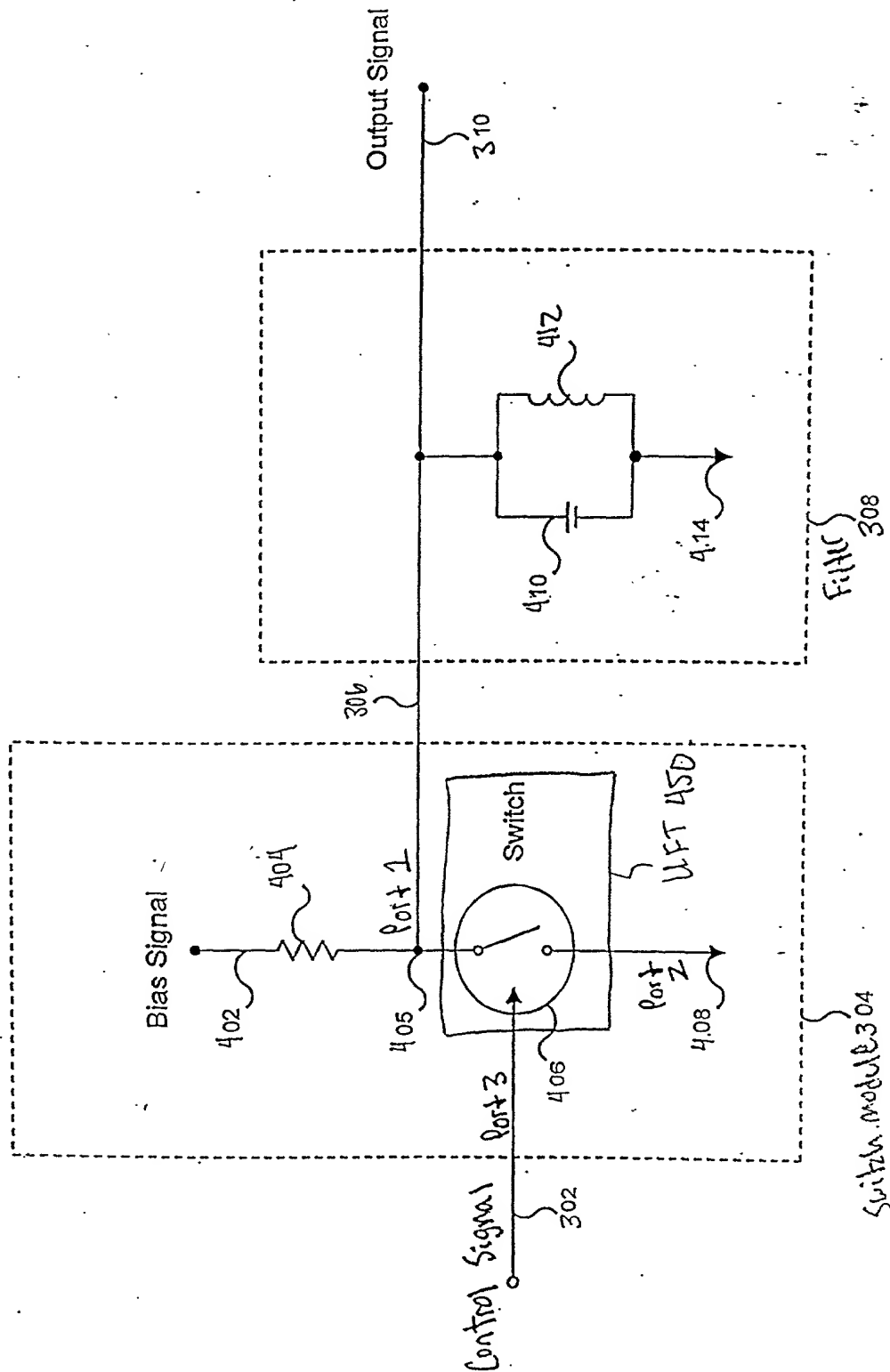


FIG. 4

FIG. 5

Universal Frequency  
up-conversion  
(UFC) module 500

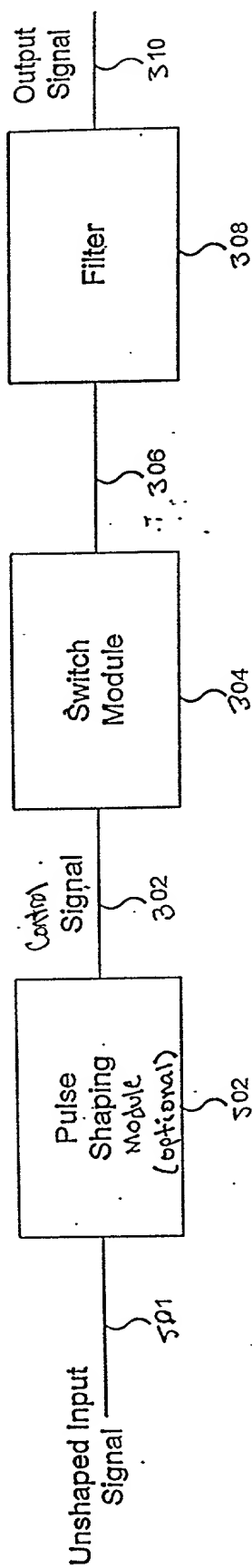


FIG. 5





100% RECYCLED PAPER



42-392 100 SHEETS FOLDER 8 SQUARE  
42-391 60 SHEETS FOLDER 8 SQUARE  
42-392 100 SHEETS FOLDER 8 SQUARE  
42-391 60 SHEETS FOLDER 8 SQUARE  
42-392 100 RECYCLED WHITE 8 SQUARE  
42-391 60 RECYCLED WHITE 8 SQUARE  
Made in U.S.A.

EXPANDED VIEW OF  
HARMONICALLY RICH  
SIGNAL 608

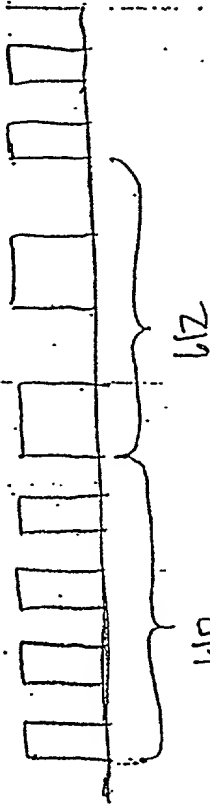
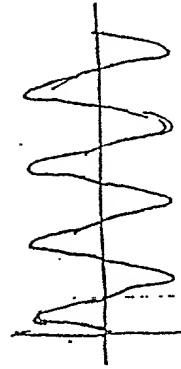


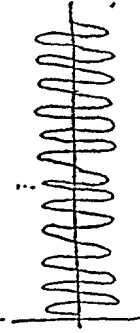
FIG. 6E

SEE FIG. 6F

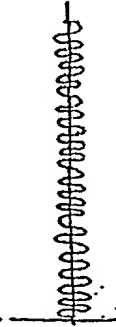
SEE FIG. 6G



FUNDAMENTAL  
FREQUENCY  
610A



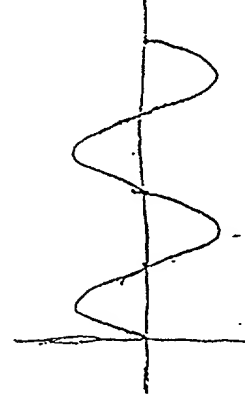
THIRD HARMONIC  
610B



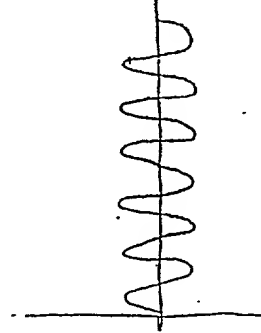
FIFTH HARMONIC  
610C

FIG. 6F

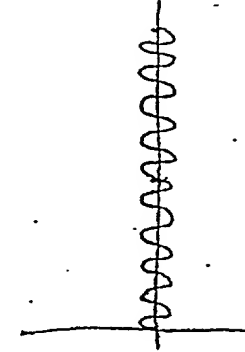
HARMONICS OF  
SIGNAL 612  
(SHOWN SEPARATELY)



FUNDAMENTAL  
FREQUENCY  
612A



THIRD HARMONIC  
612B



FIFTH HARMONIC  
612C

FIG. 6G

FIG. 6 (cont)

**See National Brand**

73-702	80 SHEETS 12" x 18" x 1/4"	\$ SQUARE
42-041	80 SHEETS 11" x 17" x 1/4"	\$ SQUARE
42-042	100 SHEETS 11" x 17" x 1/4"	\$ SQUARE
42-043	200 SHEETS 11" x 17" x 1/4"	\$ SQUARE
42-049	200 SHEETS 11" x 17" x 1/4"	\$ SQUARE
42-052	200 RECYCLED WHITE	\$ SQUARE
42-059	200 RECYCLED WHITE	\$ SQUARE

Made in U.S.A.

A hand-drawn waveform diagram. The diagram shows a horizontal line with a signal waveform plotted above it. The waveform is divided into two main sections by a vertical gap. The left section is labeled 'b10' and the right section is labeled 'b12'. Both sections are bracketed together by a large horizontal bracket above them. The waveform in the 'b10' section consists of several sharp, narrow peaks. The waveform in the 'b12' section consists of several broader, rounded peaks.

419

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Fig. 51

FIG 6 (cont)

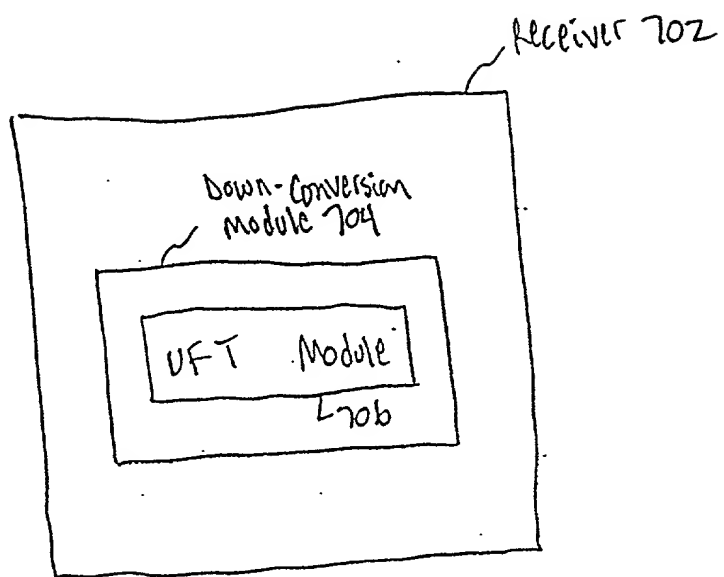


FIG. 7

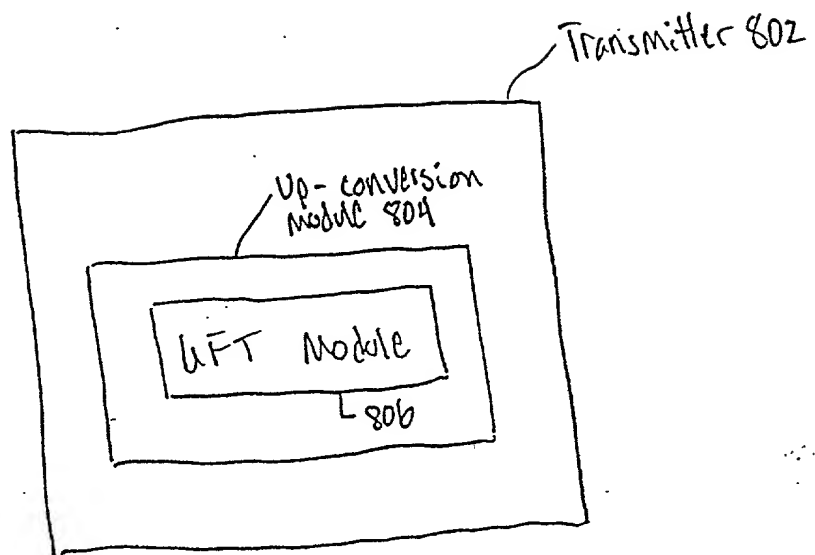


FIG. 8

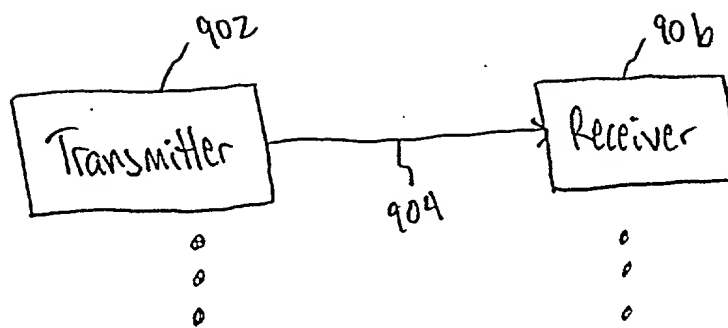


FIG. 9

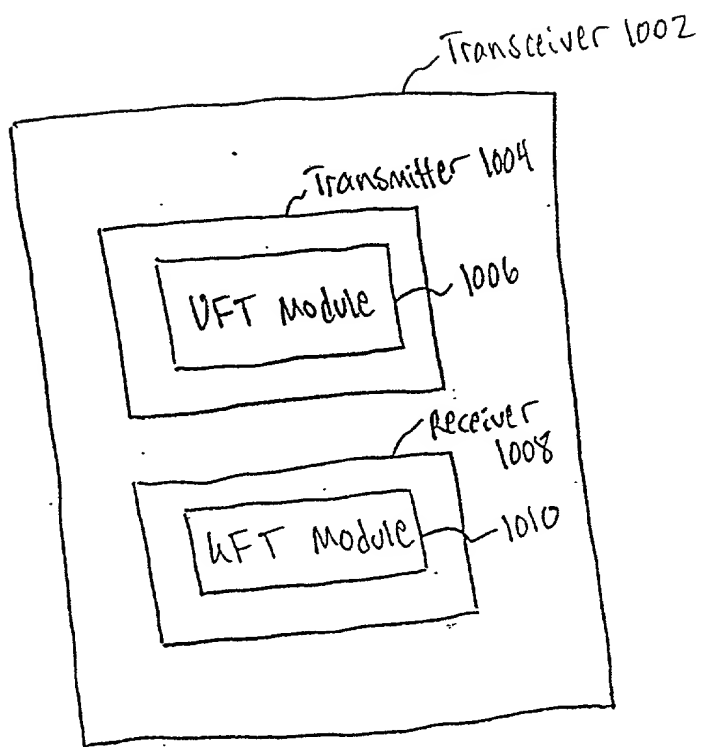


FIG. 10

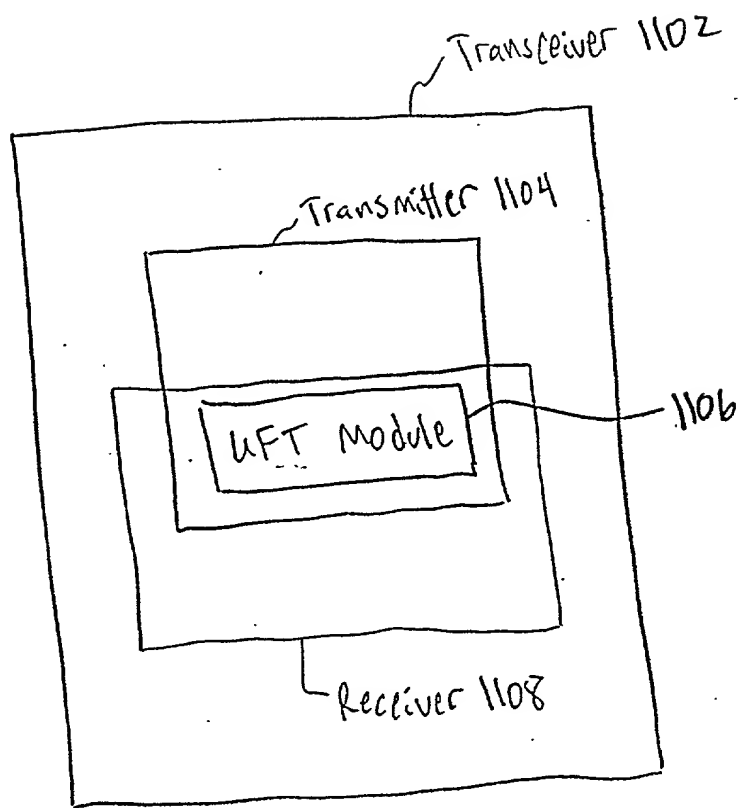
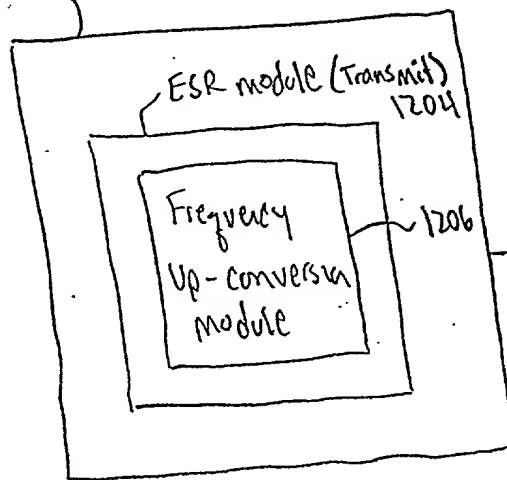


FIG. 11



Transmitter 1202



1208

Receiver 1210

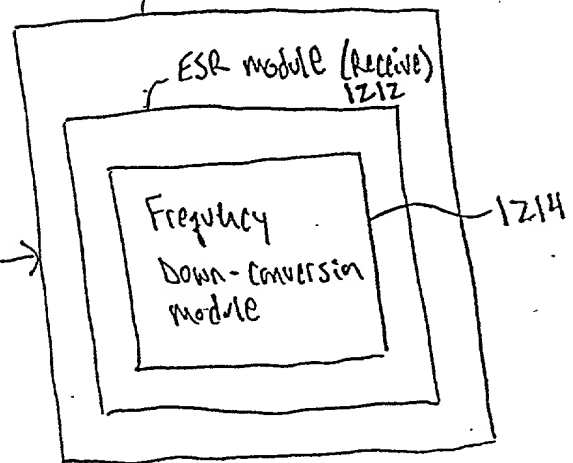


FIG. 12

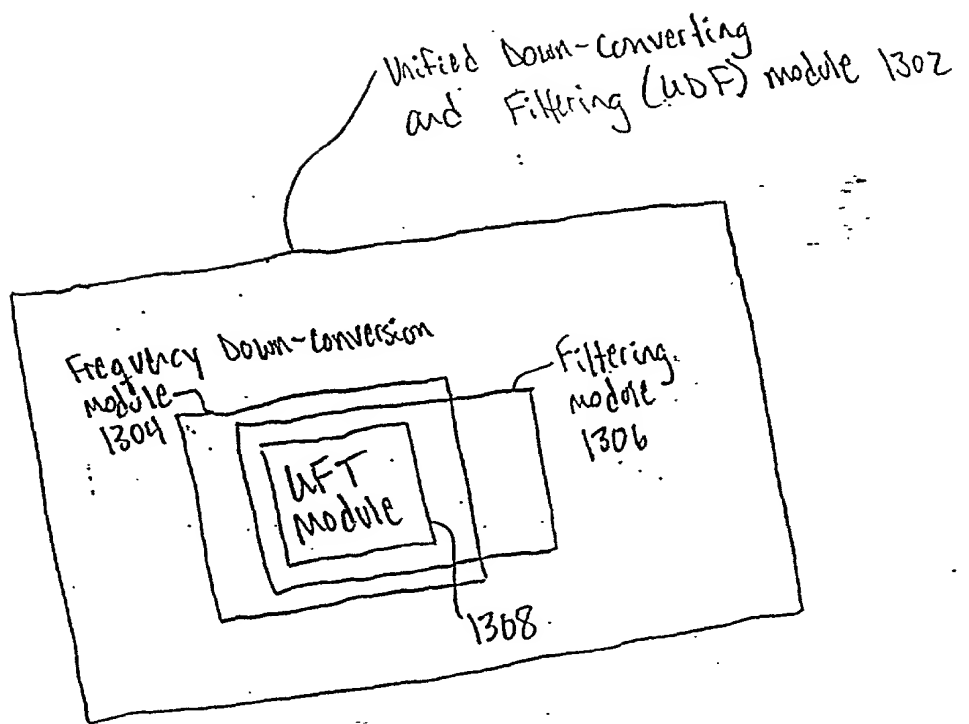


FIG. 13

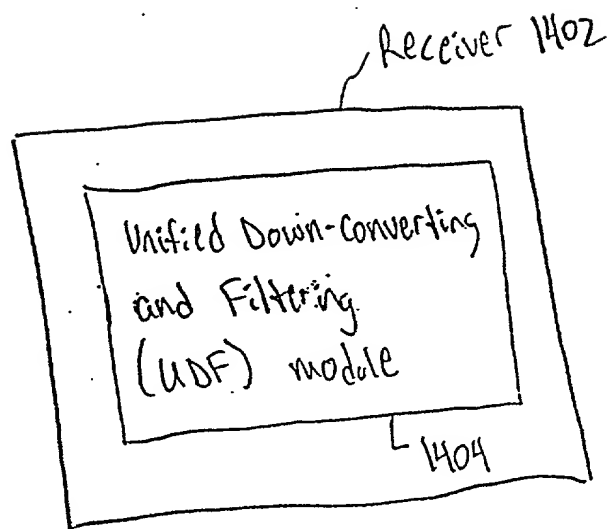
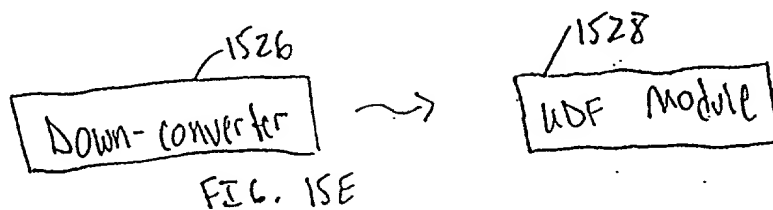
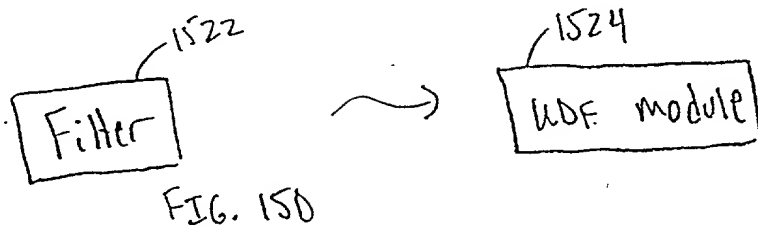
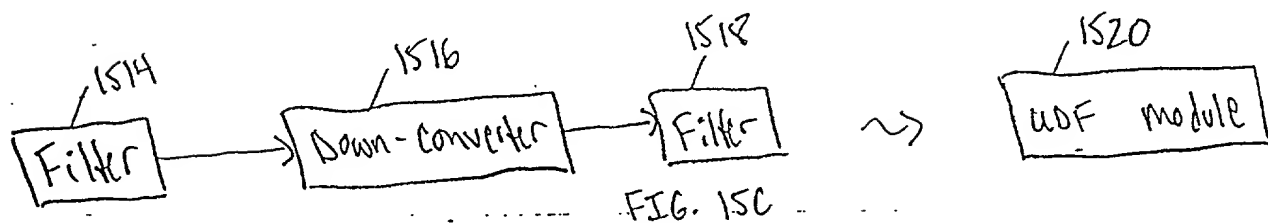
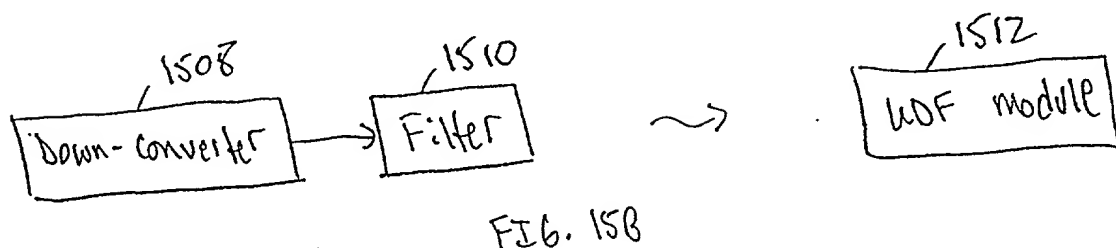


FIG. 14



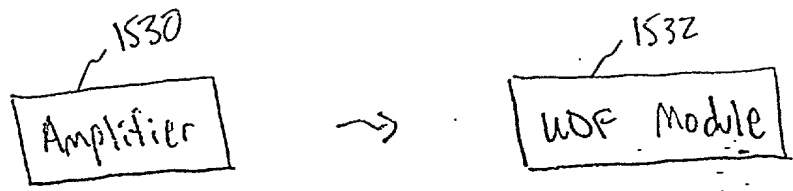


FIG. 15F

FIG. 15F

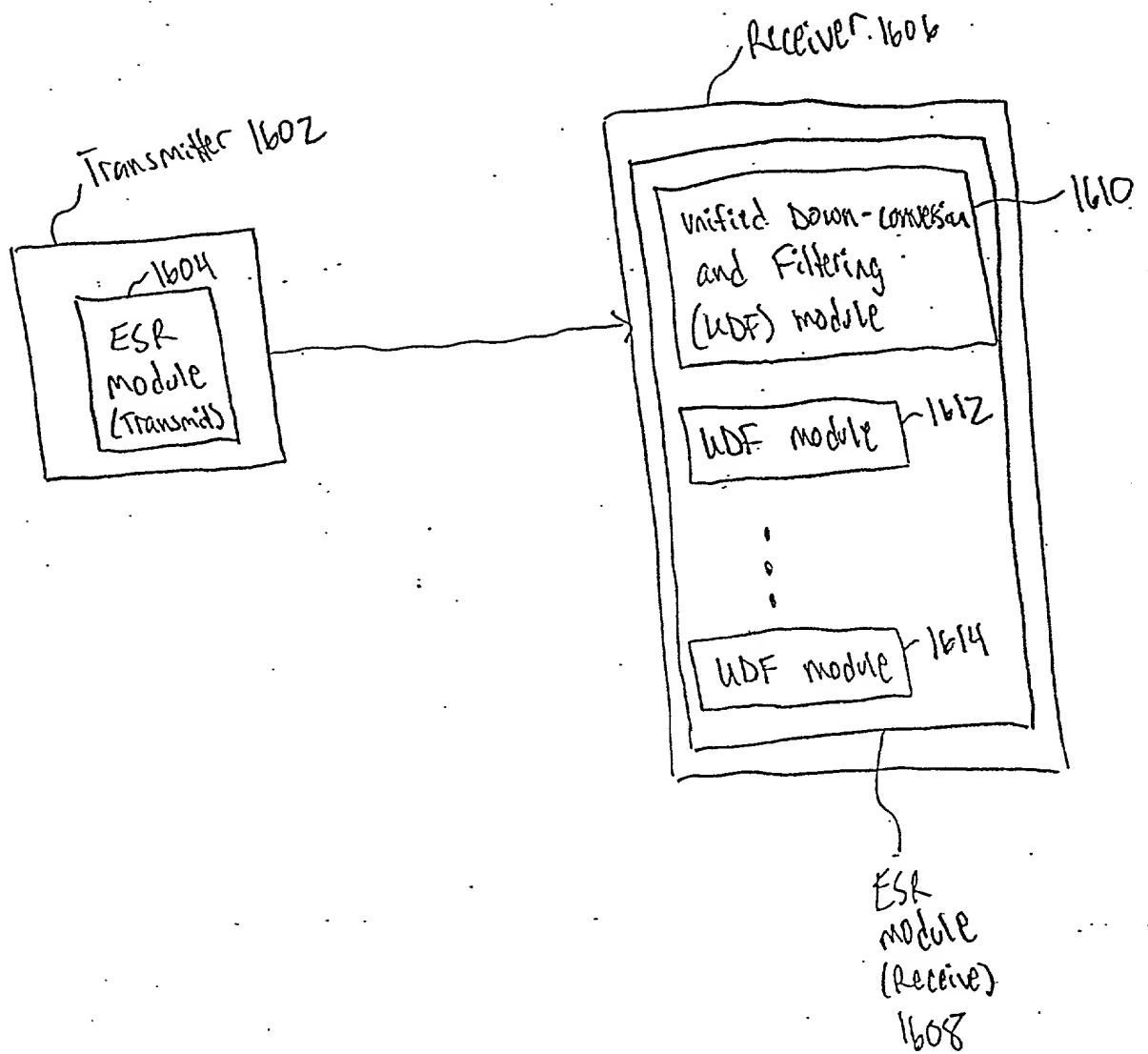


FIG. 16

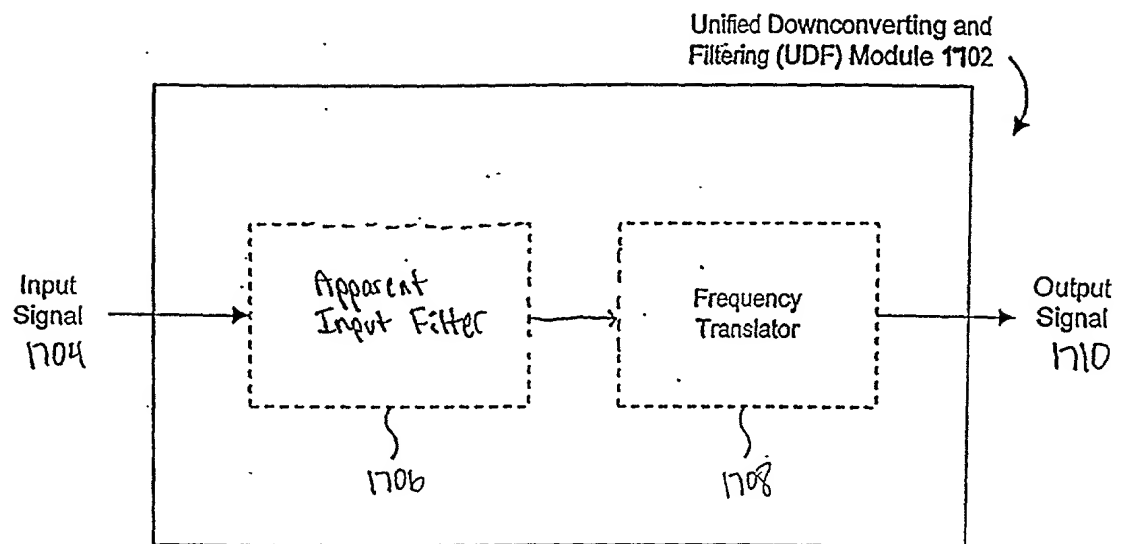


FIG. 17

1802

Time Node	t-1 (rising edge of $\phi_1$ )	t-1 (rising edge of $\phi_2$ )	t (rising edge of $\phi_1$ )	t (rising edge of $\phi_2$ )	t+1 (rising edge of $\phi_1$ )
1902	$VI_{t-1}$ <u>1804</u>	$VI_{t-1}$ <u>1808</u>	$VI_t$ <u>1816</u>	$VI_t$ <u>1826</u>	$VI_{t+1}$ <u>1838</u>
1904	—	$VI_{t-1}$ <u>1810</u>	$VI_{t-1}$ <u>1818</u>	$VI_t$ <u>1828</u>	$VI_t$ <u>1840</u>
1906	$VO_{t-1}$ <u>1806</u>	$VO_{t-1}$ <u>1812</u>	$VO_t$ <u>1820</u>	$VO_t$ <u>1830</u>	$VO_{t+1}$ <u>1842</u>
1908	—	$VO_{t-1}$ <u>1814</u>	$VO_{t-1}$ <u>1822</u>	$VO_t$ <u>1832</u>	$VO_t$ <u>1844</u>
1910	— <u>1807</u>	—	$VO_{t-1}$ <u>1824</u>	$VO_{t-1}$ <u>1834</u>	$VO_t$ <u>1846</u>
1912	—	— <u>1815</u>	—	$VO_{t-1}$ <u>1836</u>	$VO_{t-1}$ <u>1848</u>
1918	—	—	—	—	$VI_t$ <u>1850</u> $0.1 * VO_t$ $0.8 * VO_{t-1}$

FIG. 18





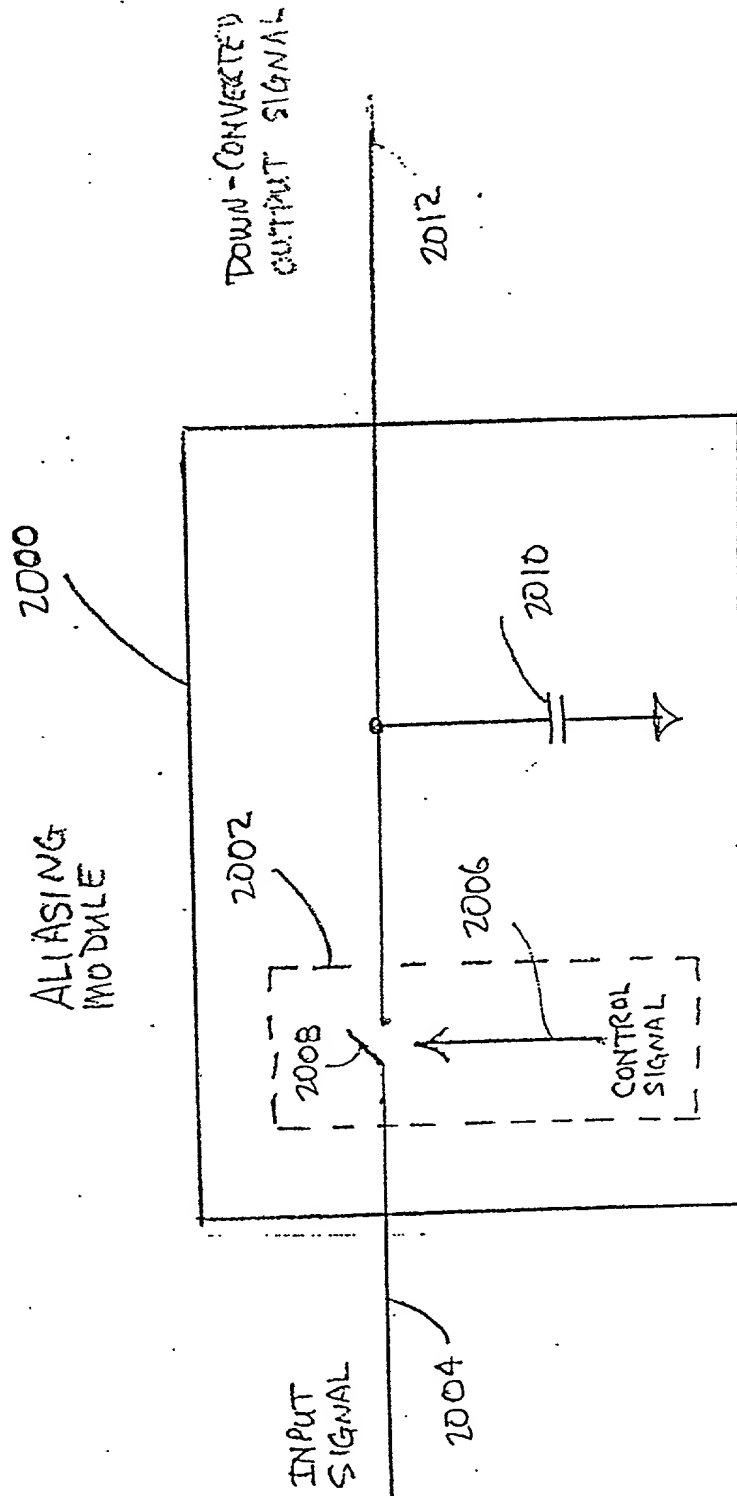


FIG. 20A

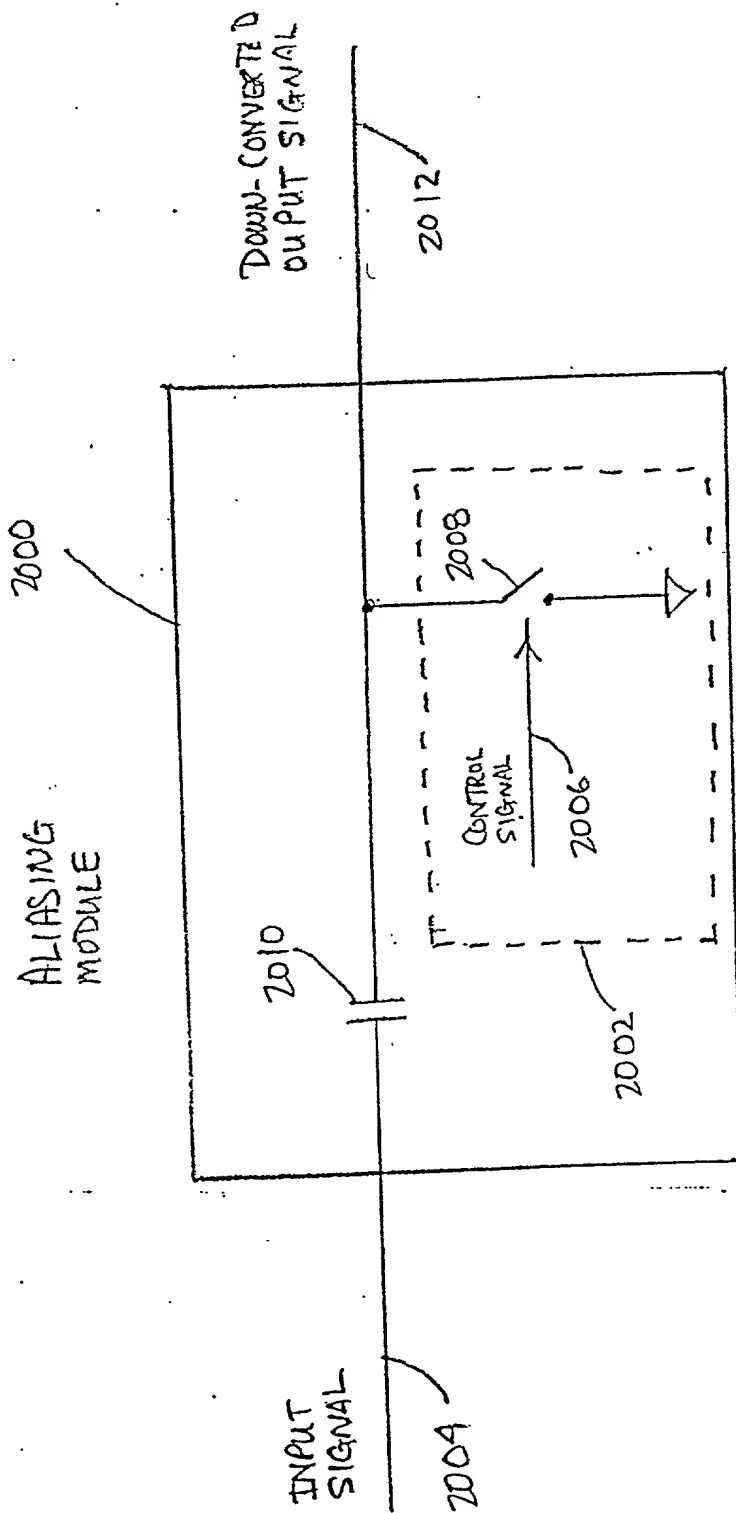


FIG. 20A-1

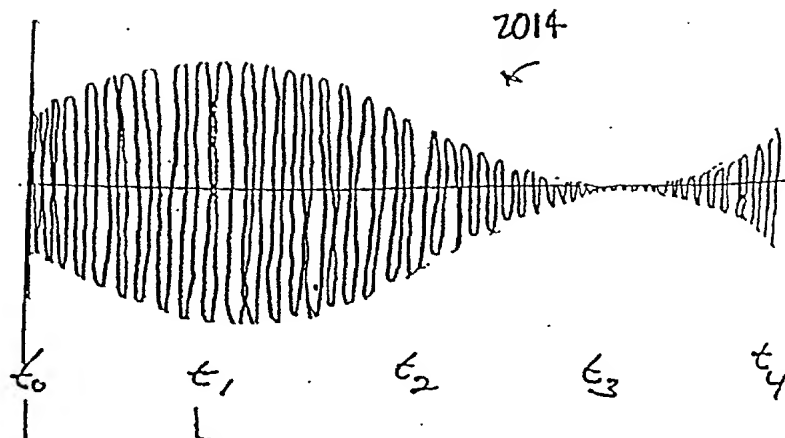


FIG. 20B

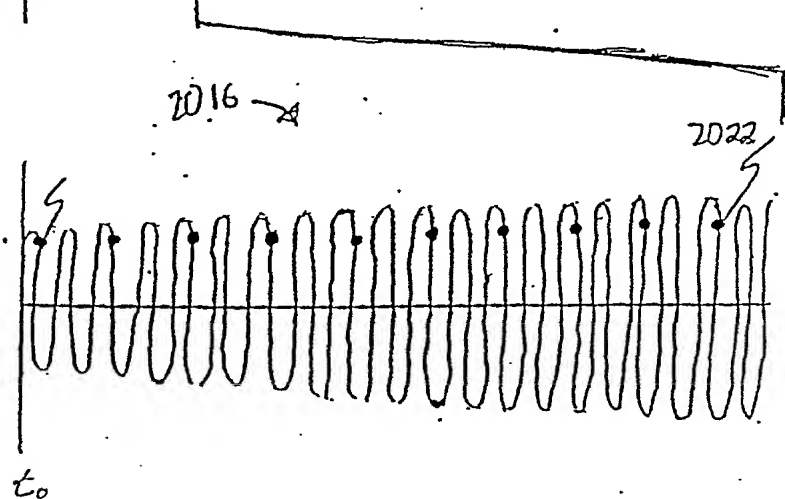


FIG. 20C

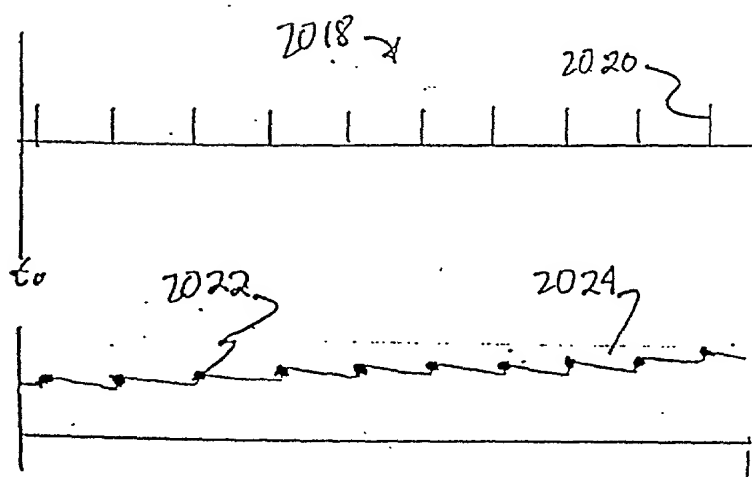


FIG. 20D

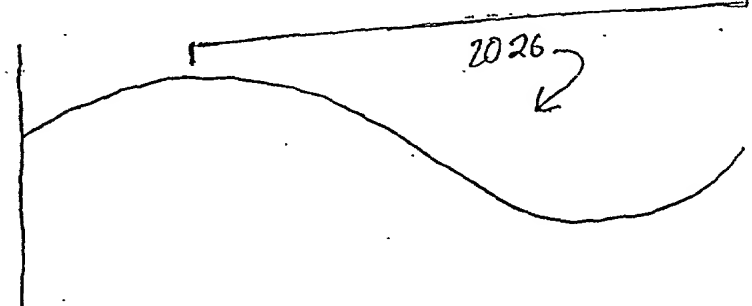


FIG. 20E



FIG. 20F

FIG. 20A

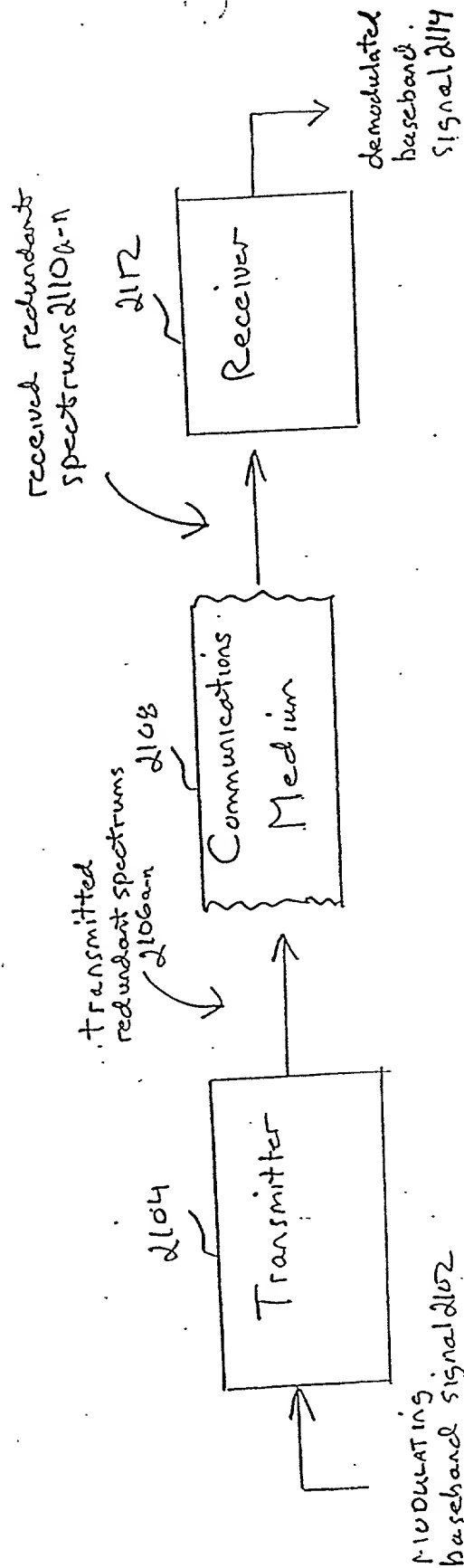


FIG. 21

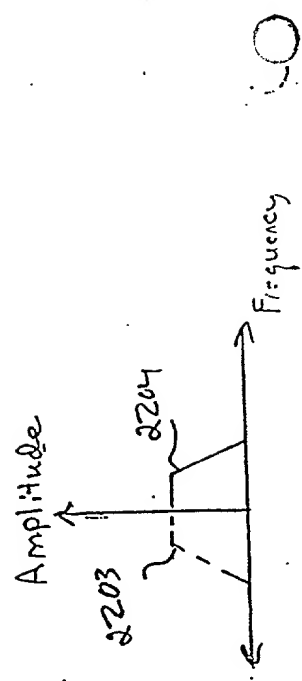


FIG. 22B

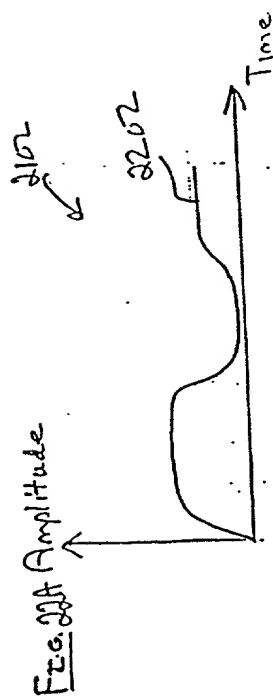


FIG. 22C

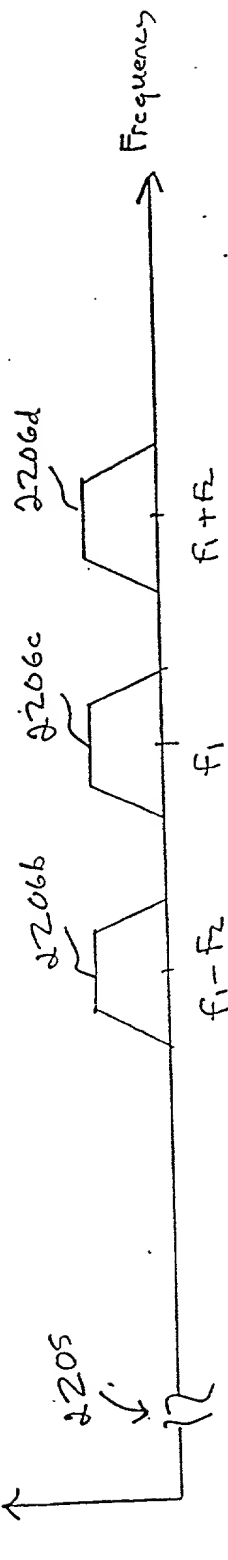
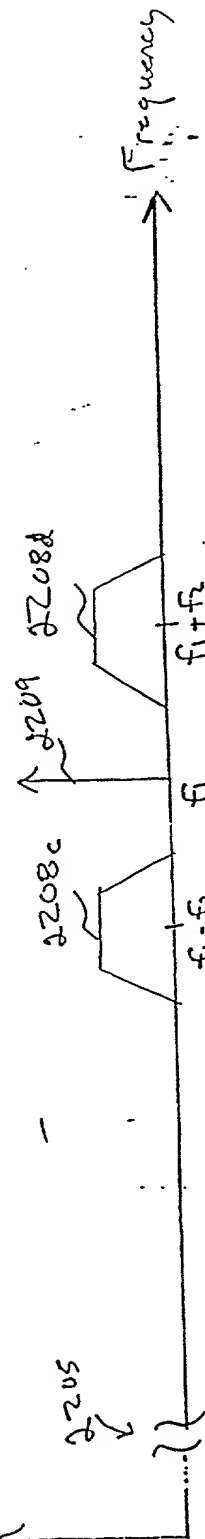


FIG. 22D



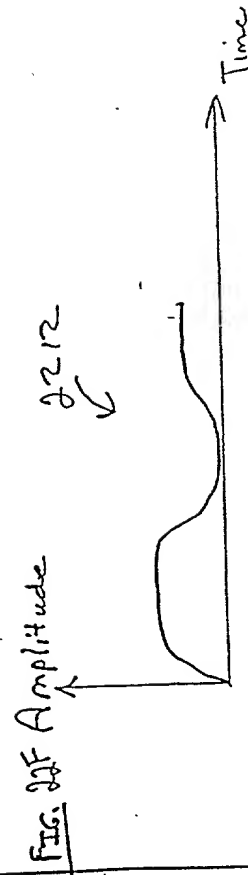
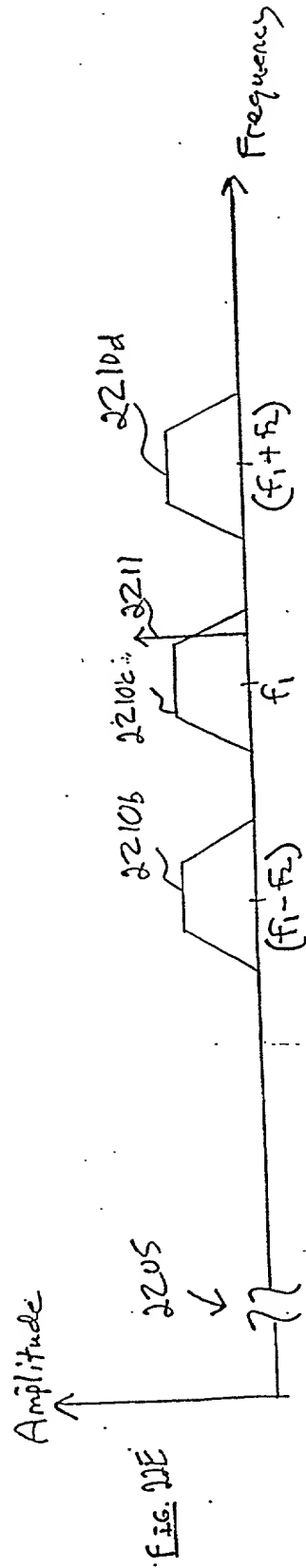


FIG. 23A

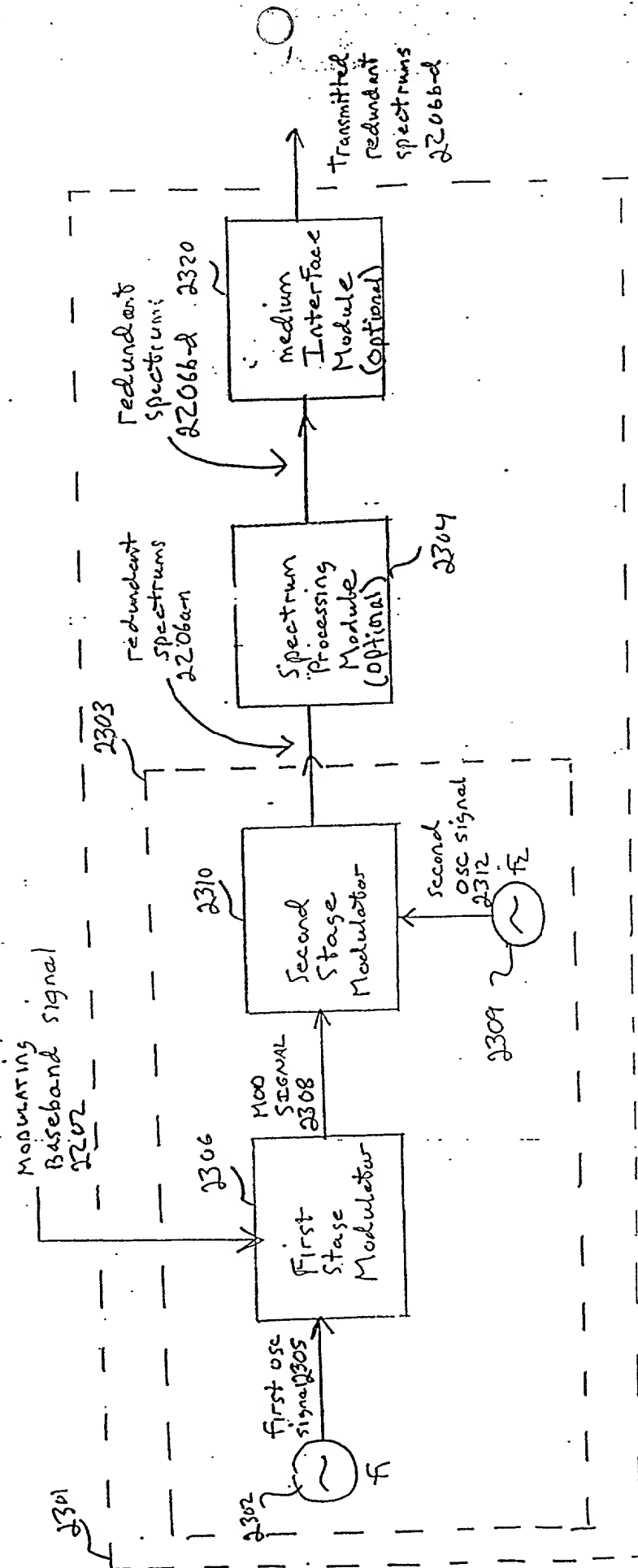


FIG. 23A



# TRIPLE CONVERSION

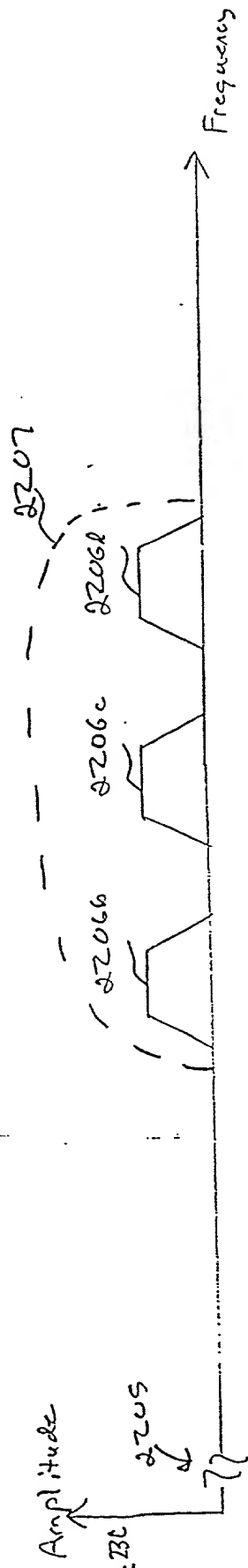
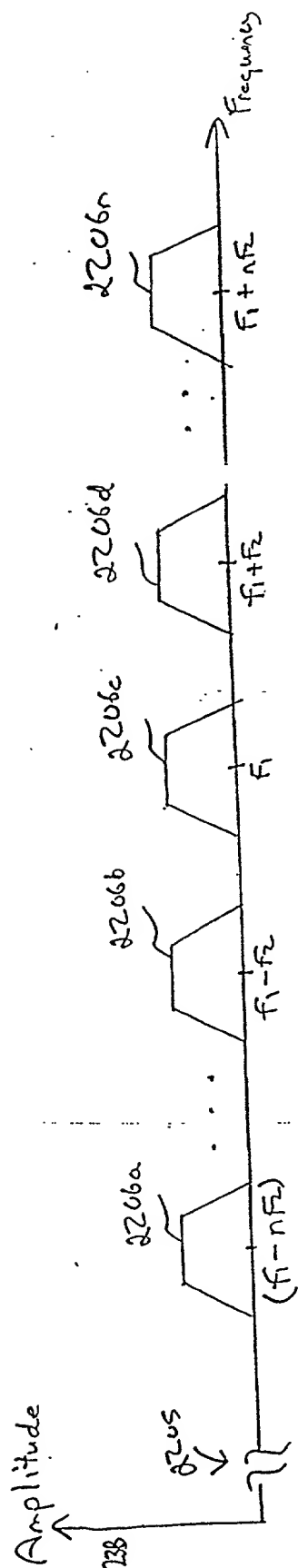


FIG. 230

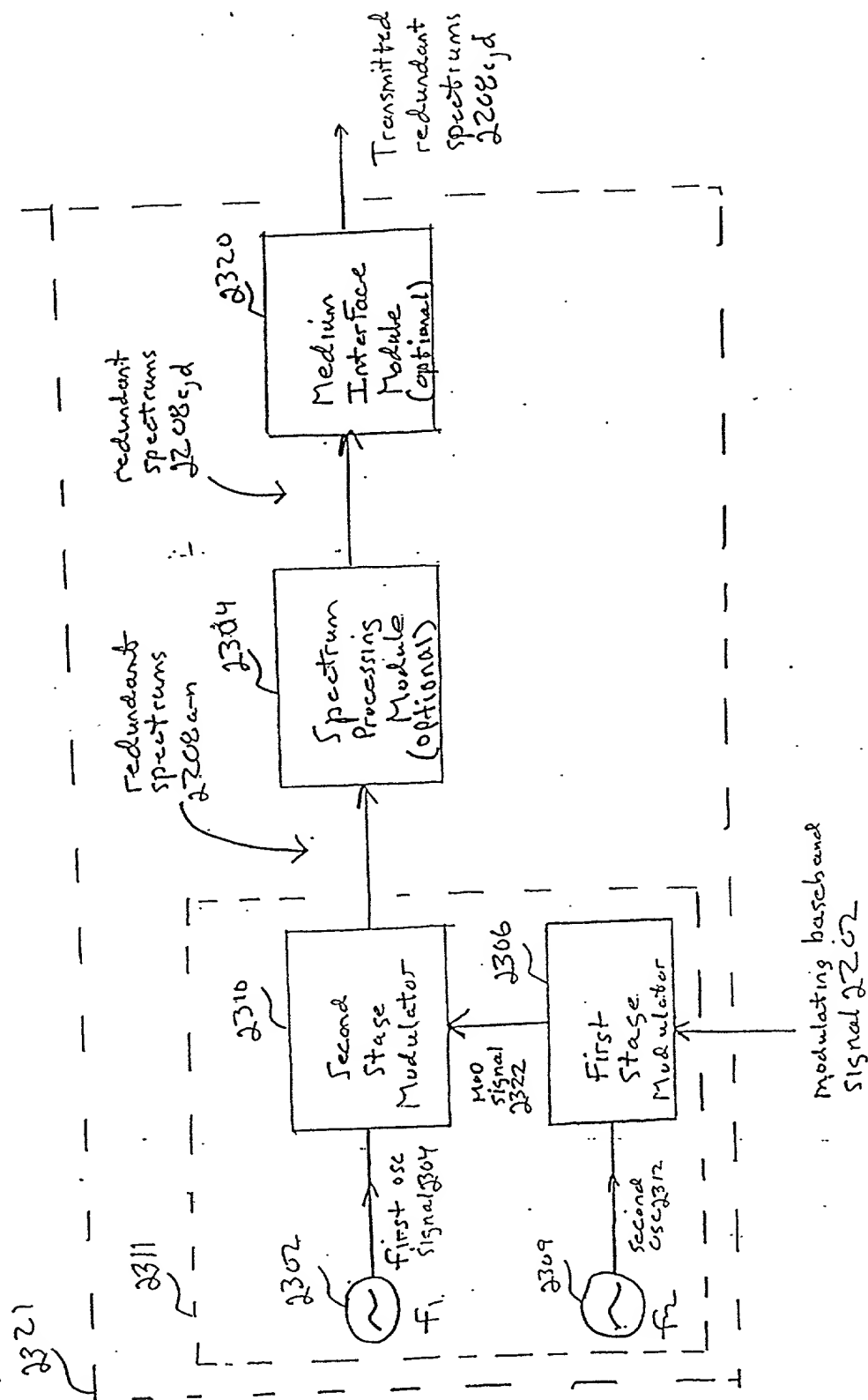


FIG. 230

FIG. 23E

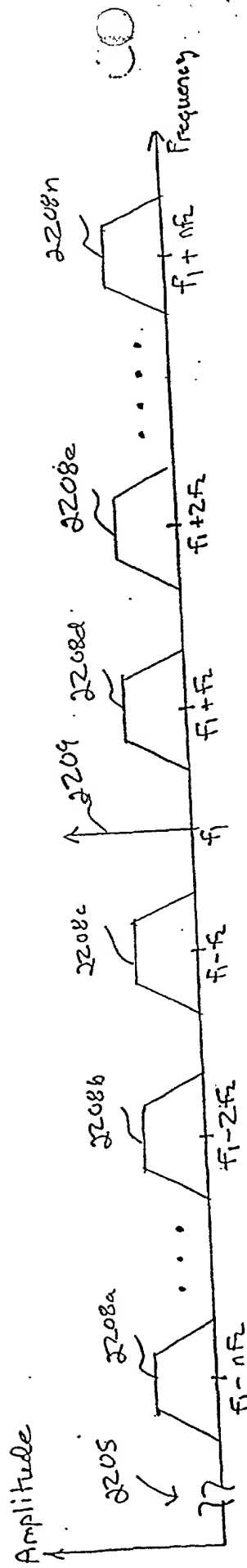
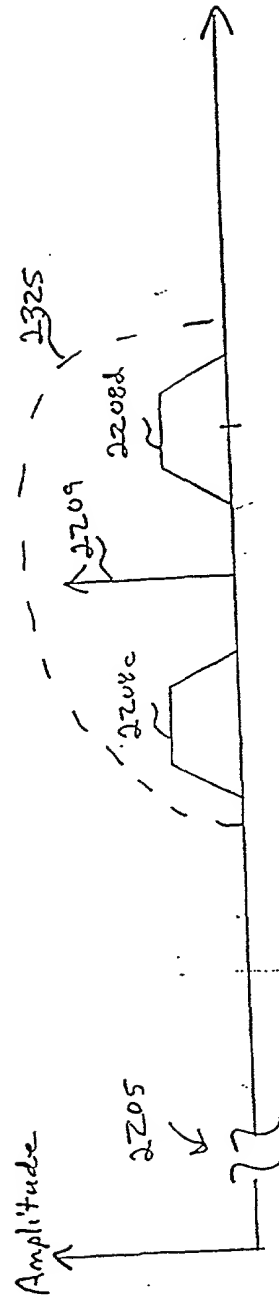


FIG. 23F











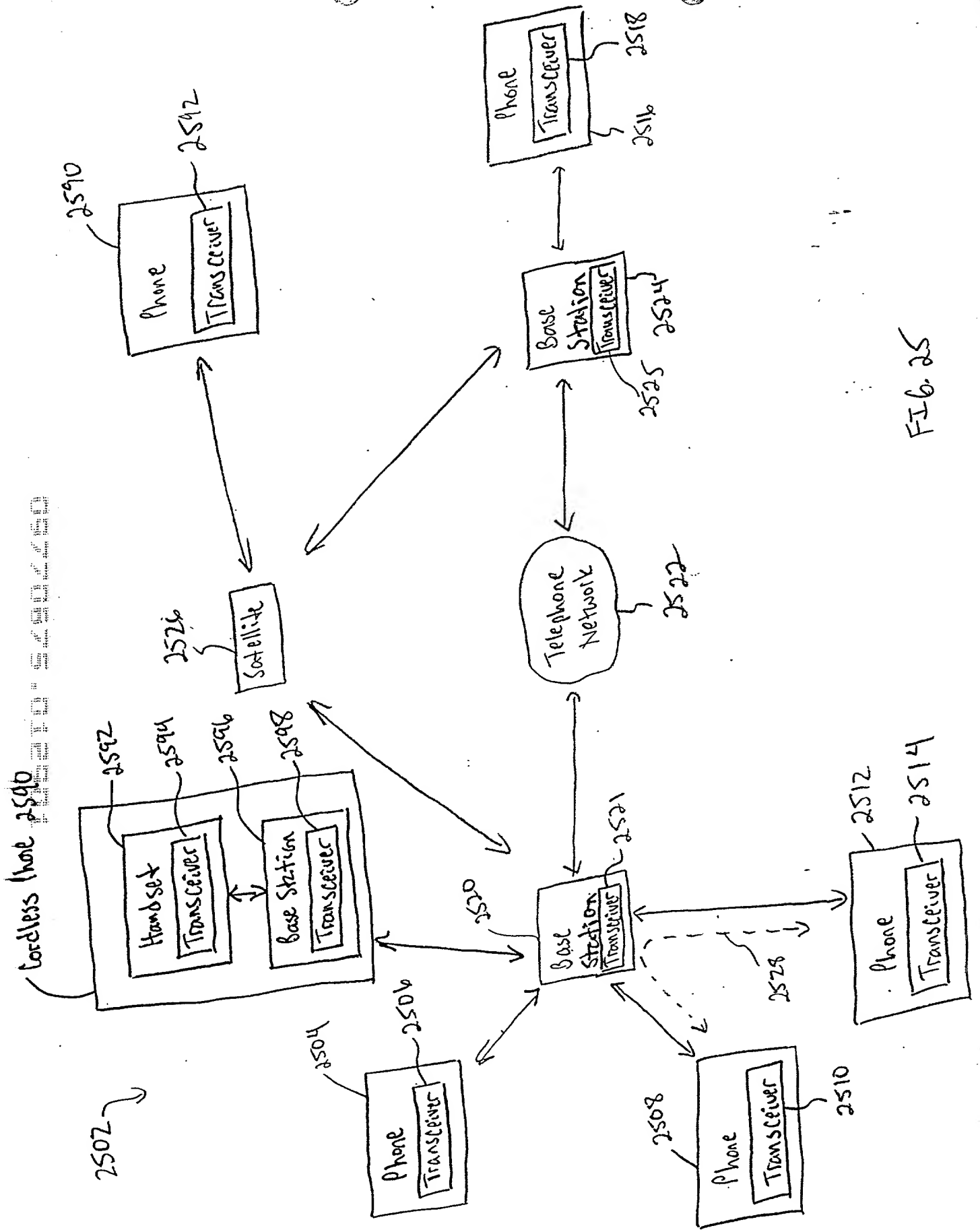


FIG. 25



FIG. 26

2602

Satellite 2604

Satellite 2606

2605

Satellite

positioning unit  
2608

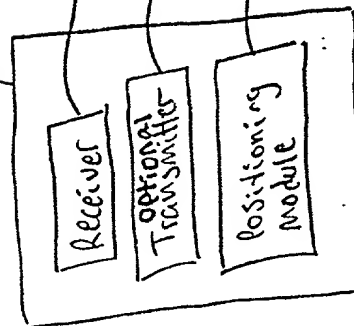


FIG. 26

FIG. 27

2702

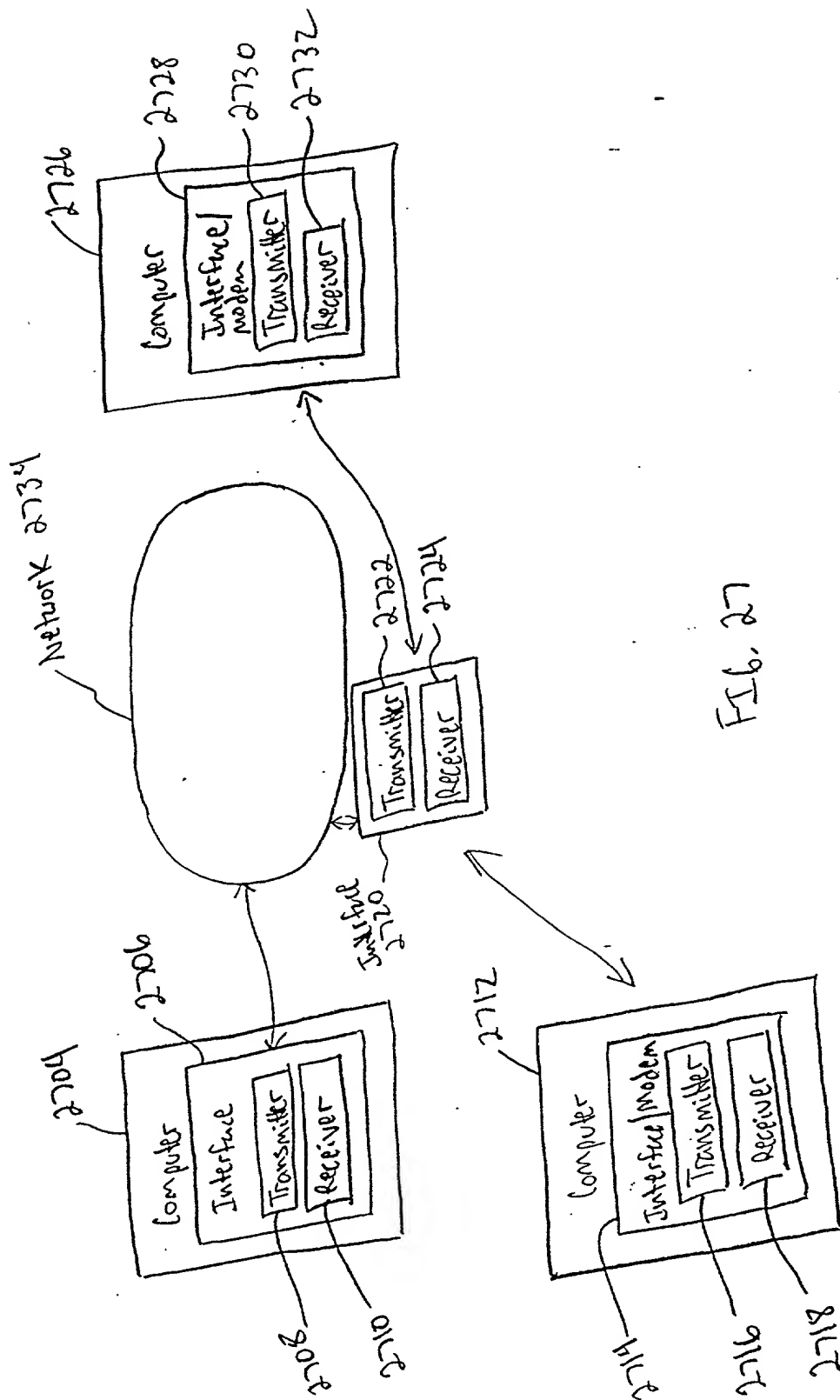


FIG. 27

FIG. 28

FIG. 28

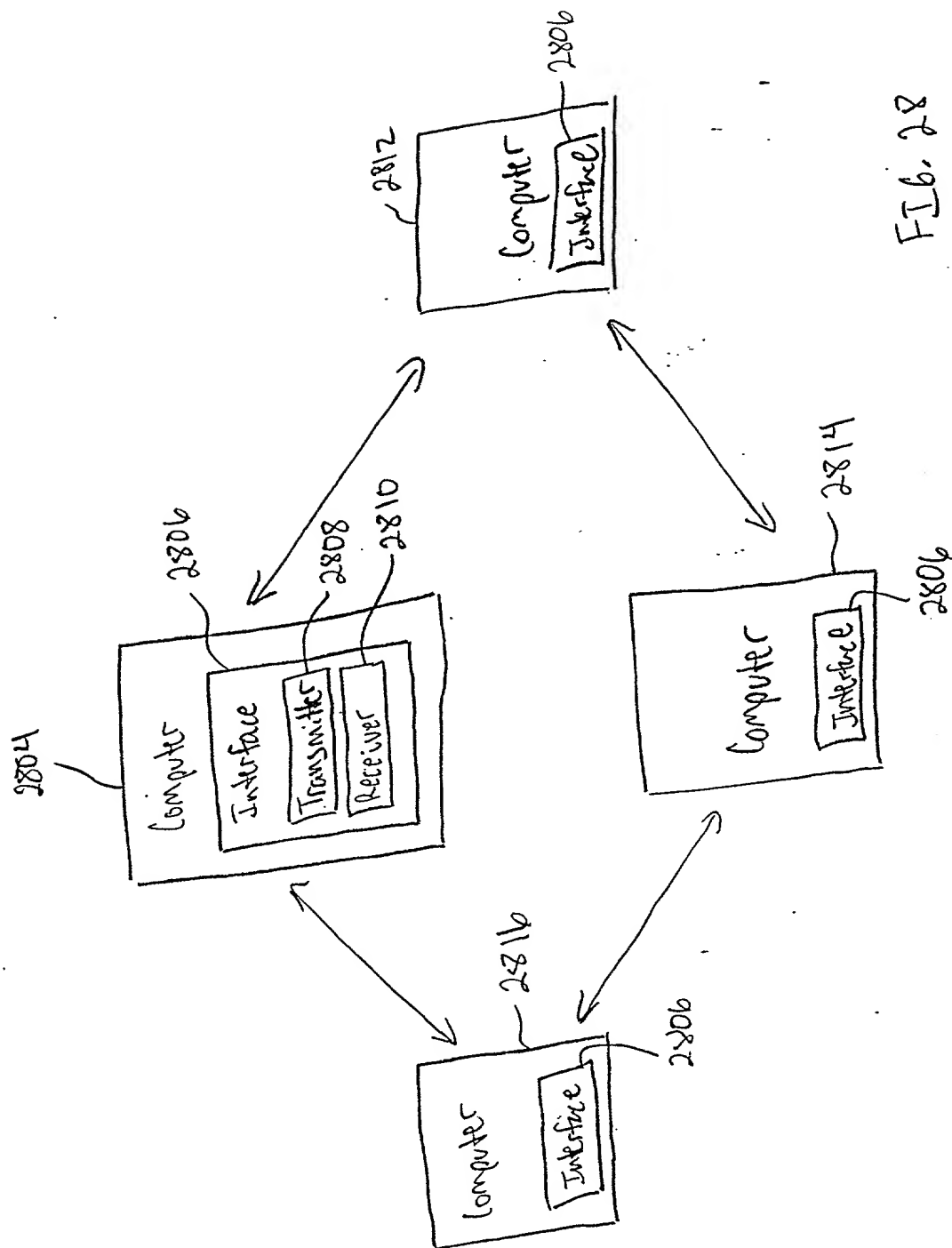


FIG. 28

FIG. 29

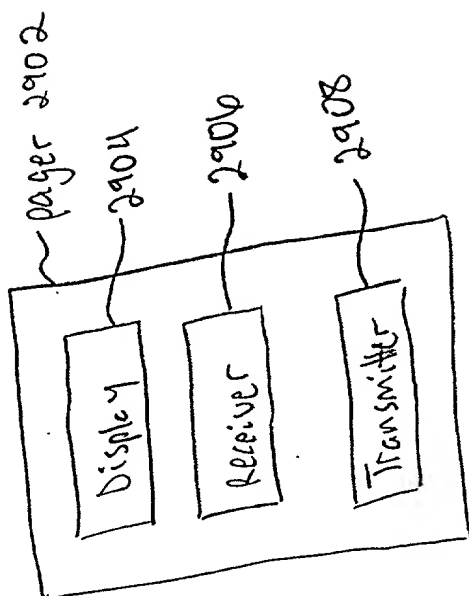


FIG. 29

FIG. 30

3002

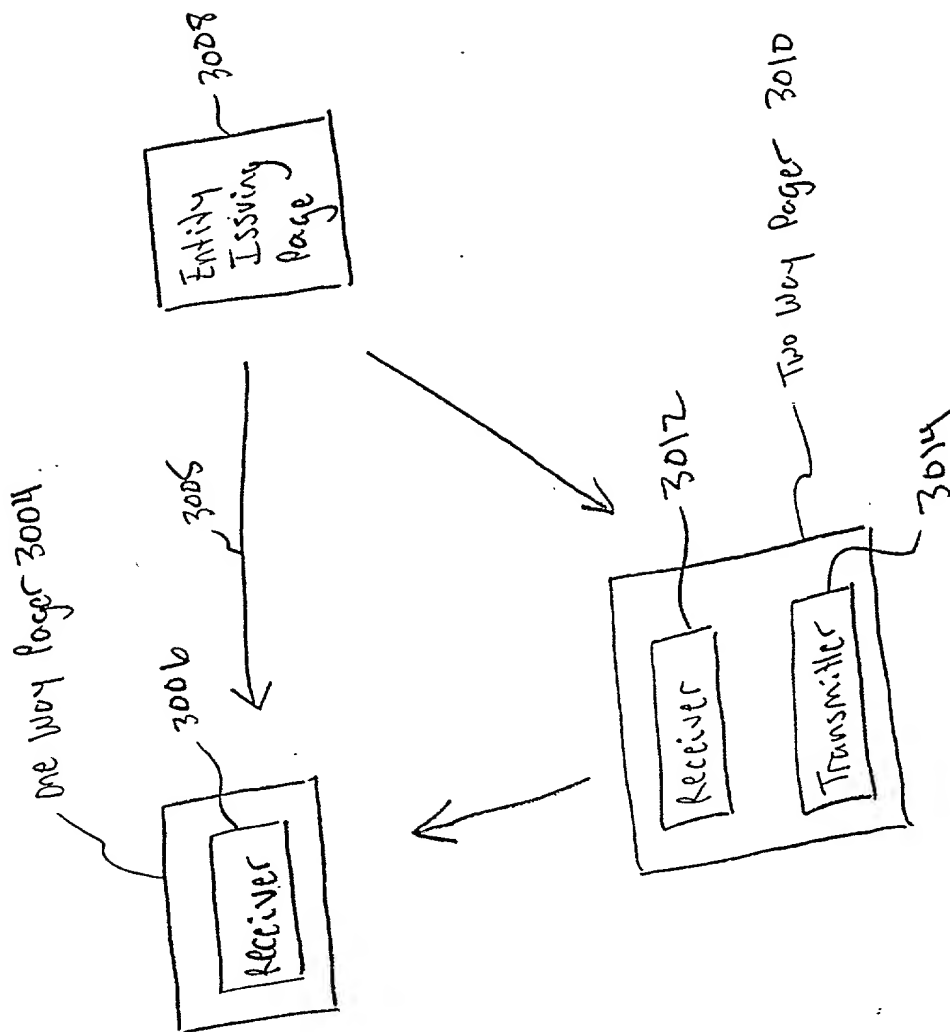


FIG. 30

FIG. 30

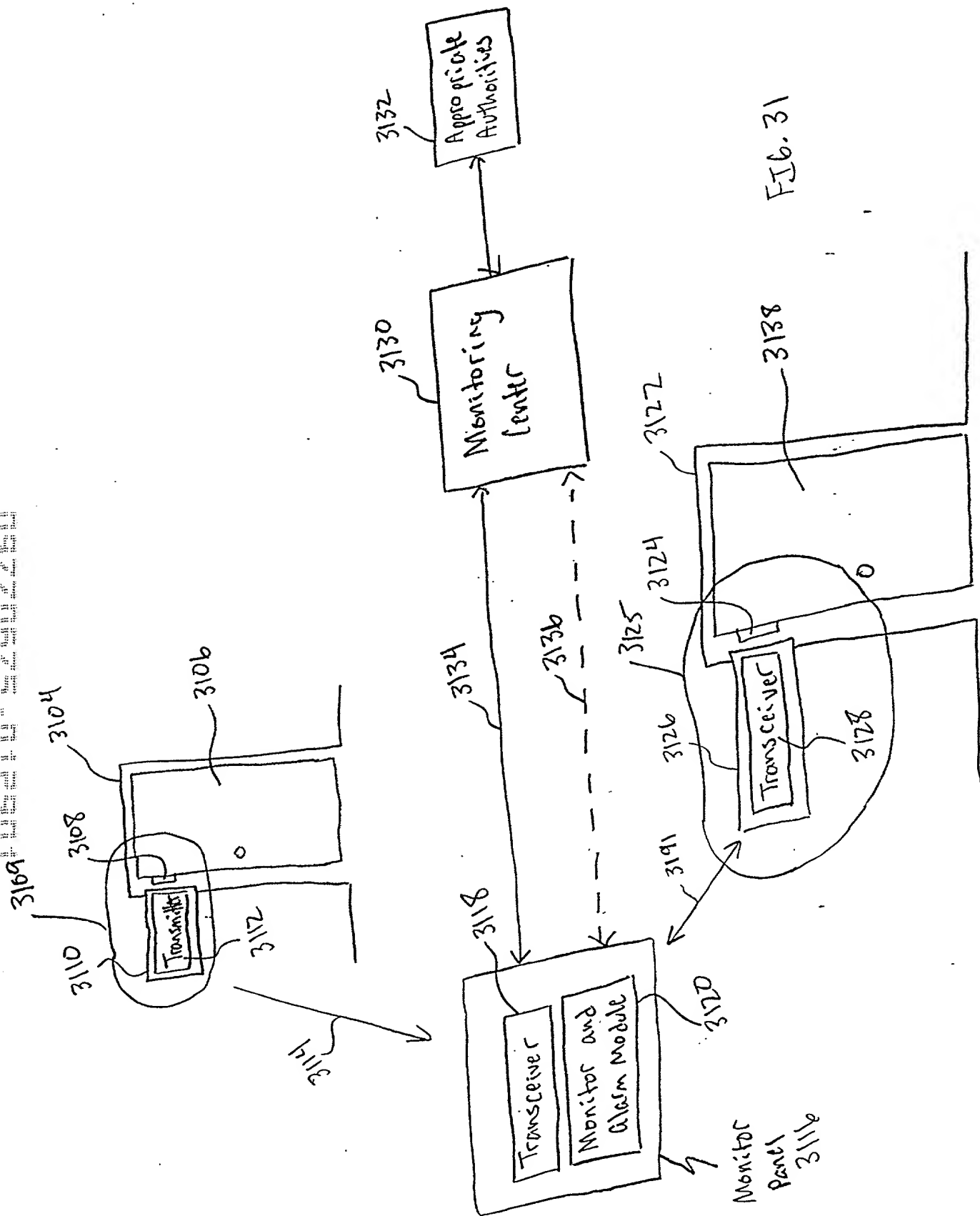


FIG. 31

FIG. 32

3202

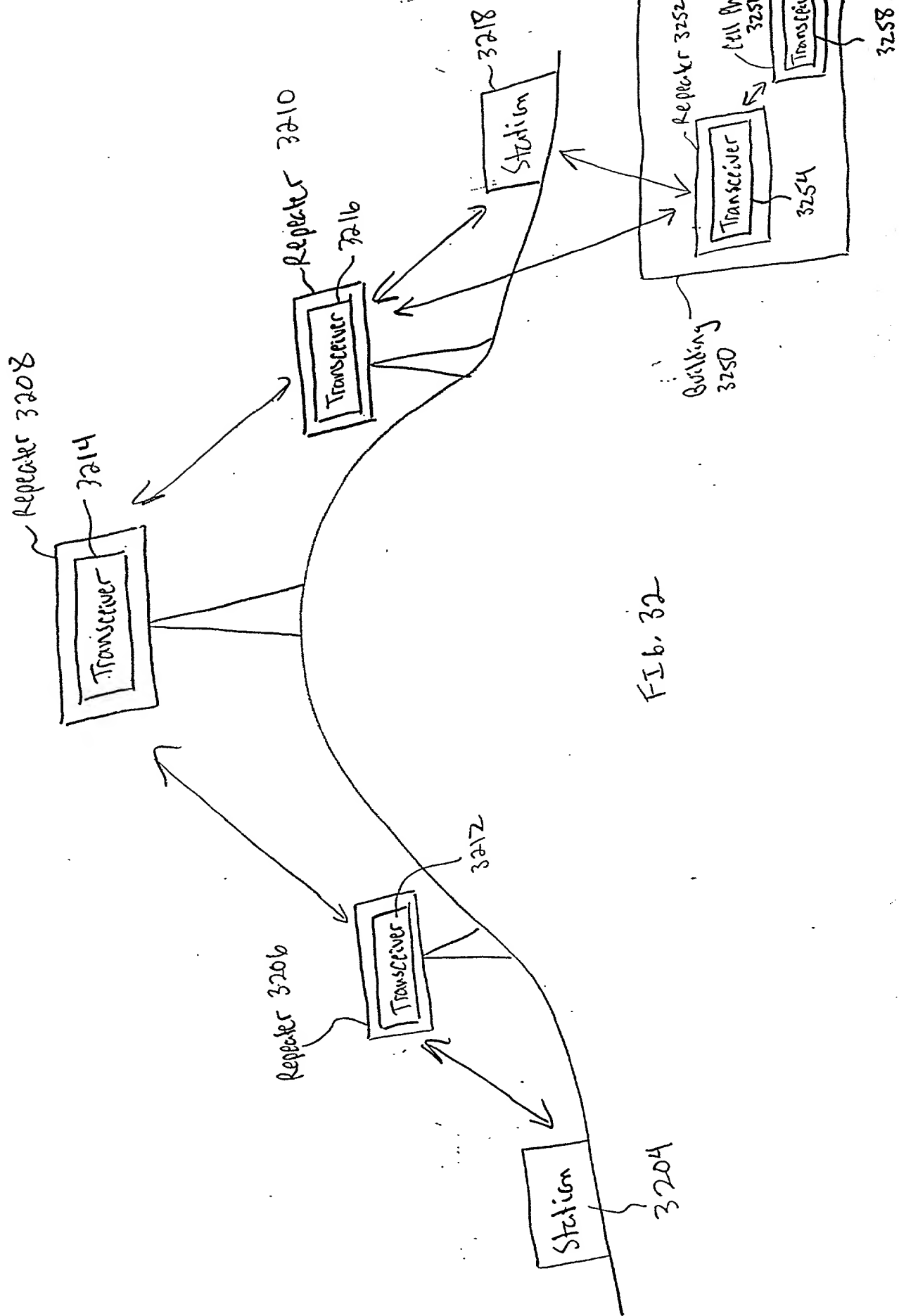


FIG. 32

3302

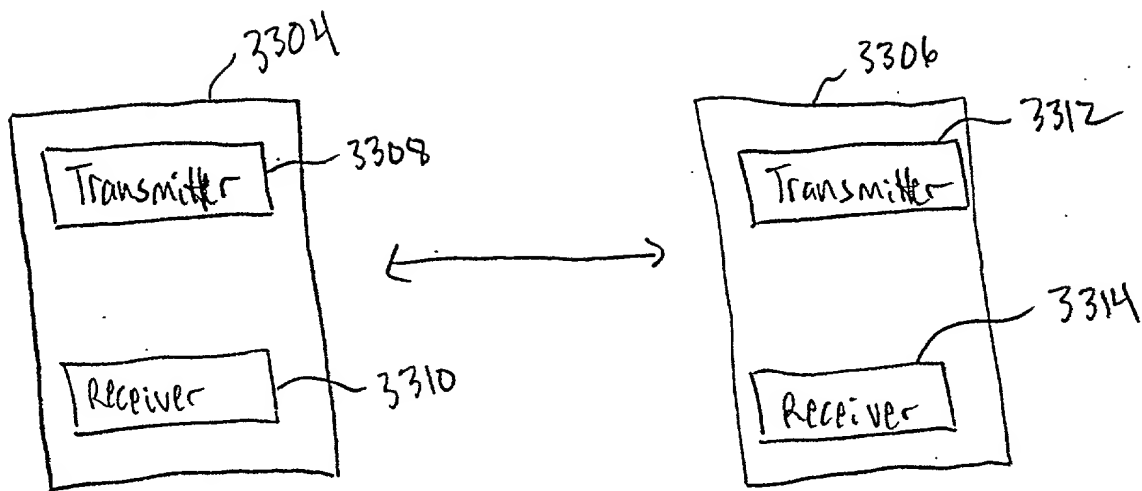


FIG. 33



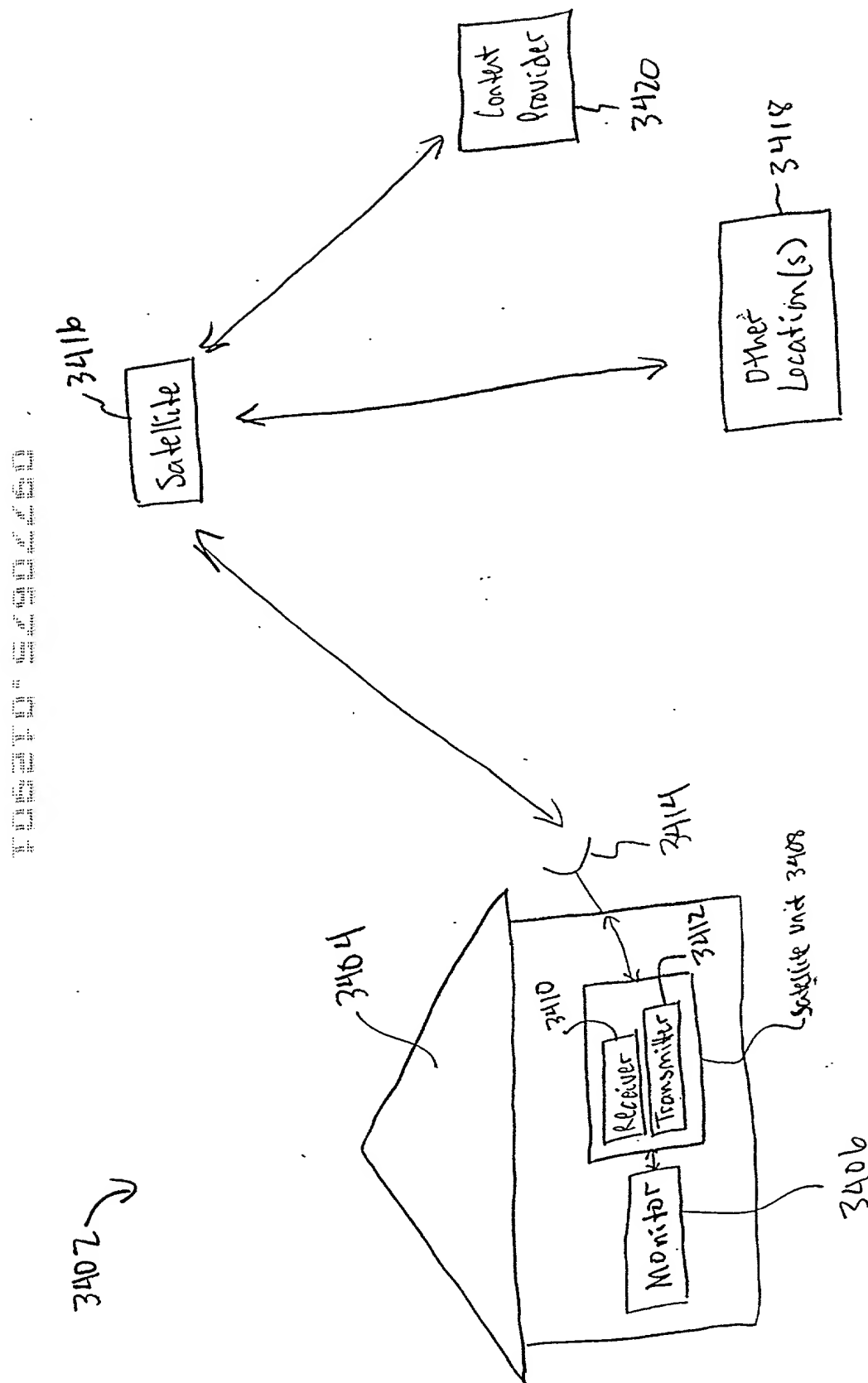


Fig. 34

FIG. 35

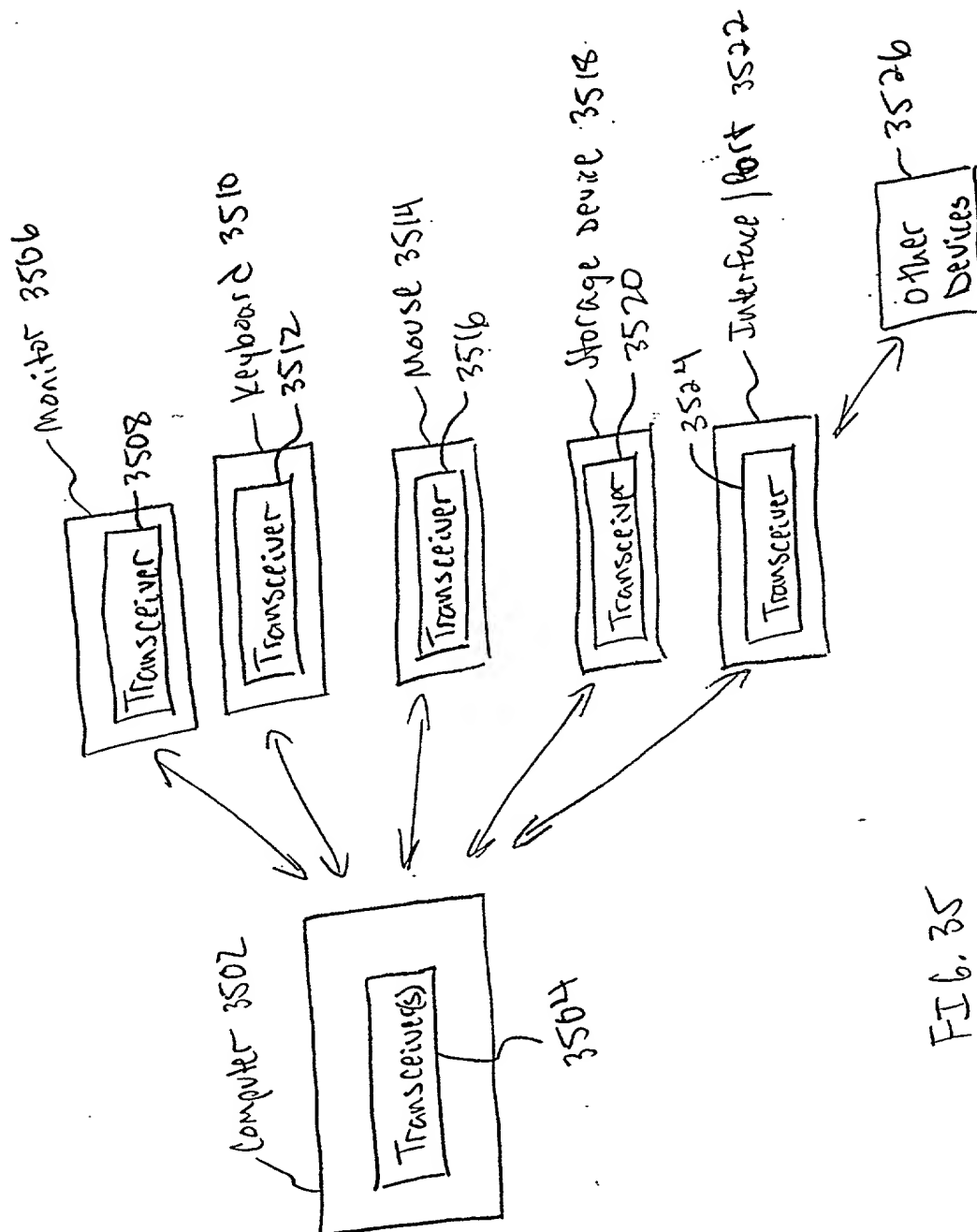


FIG. 35

FIG. 36

3607

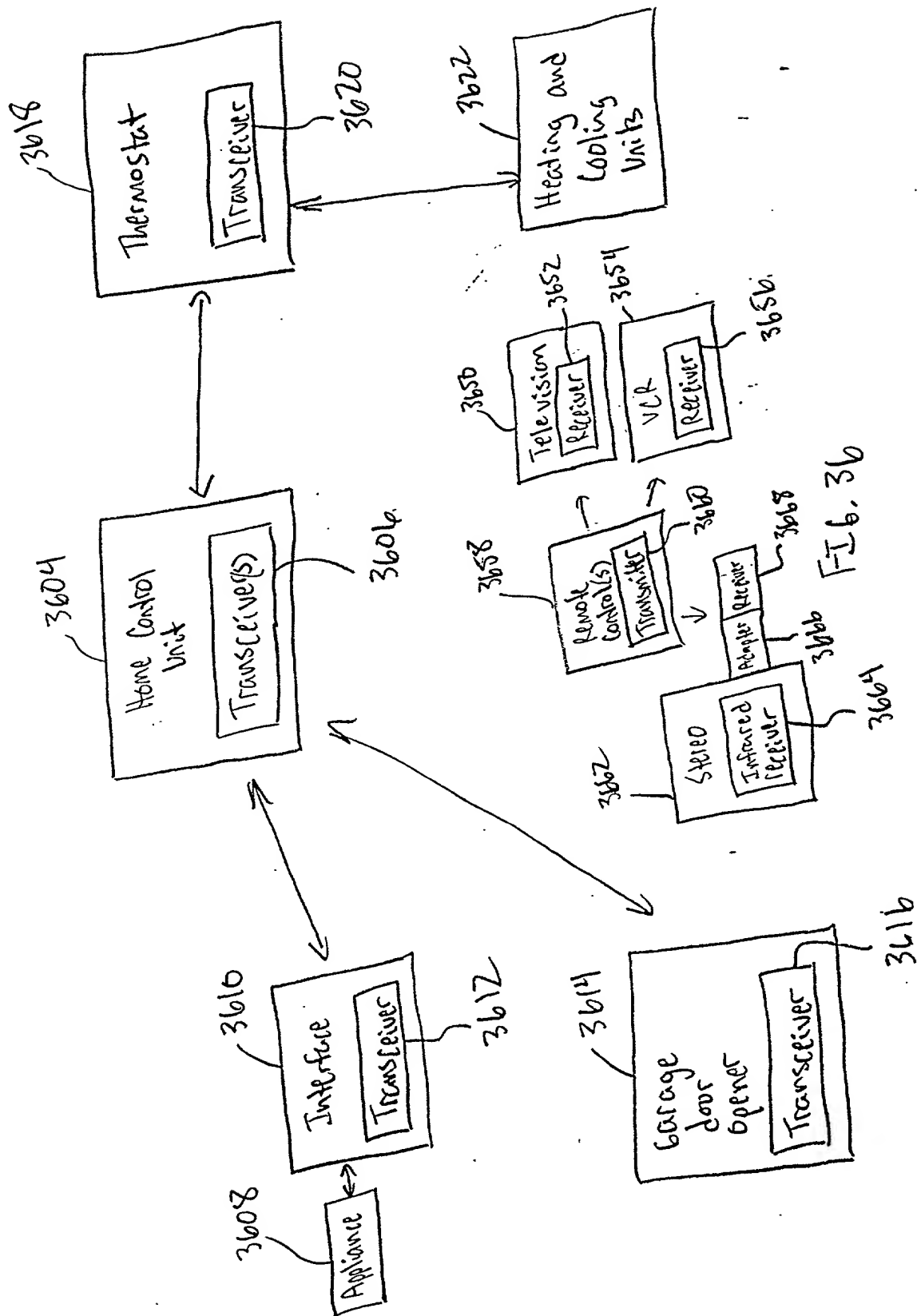


FIG. 36

FIG. 36

3702

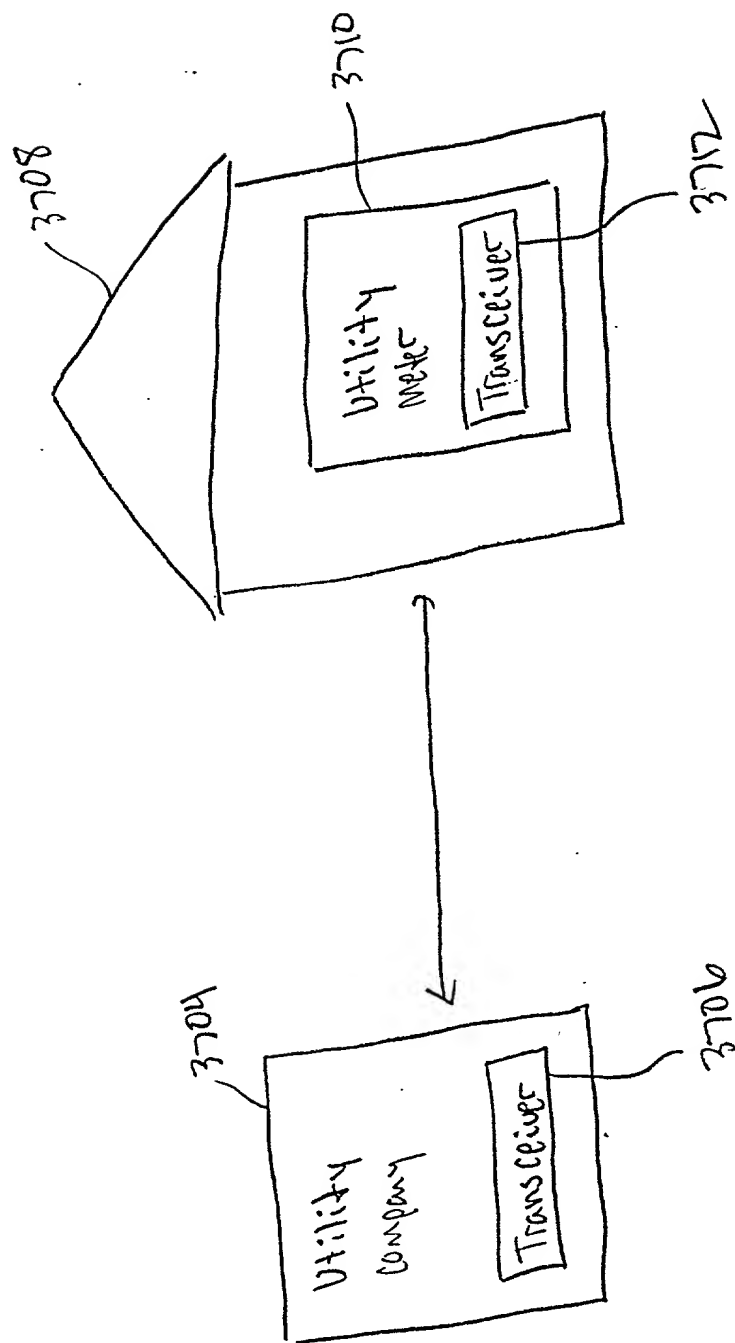


FIG. 37

FIG. 38

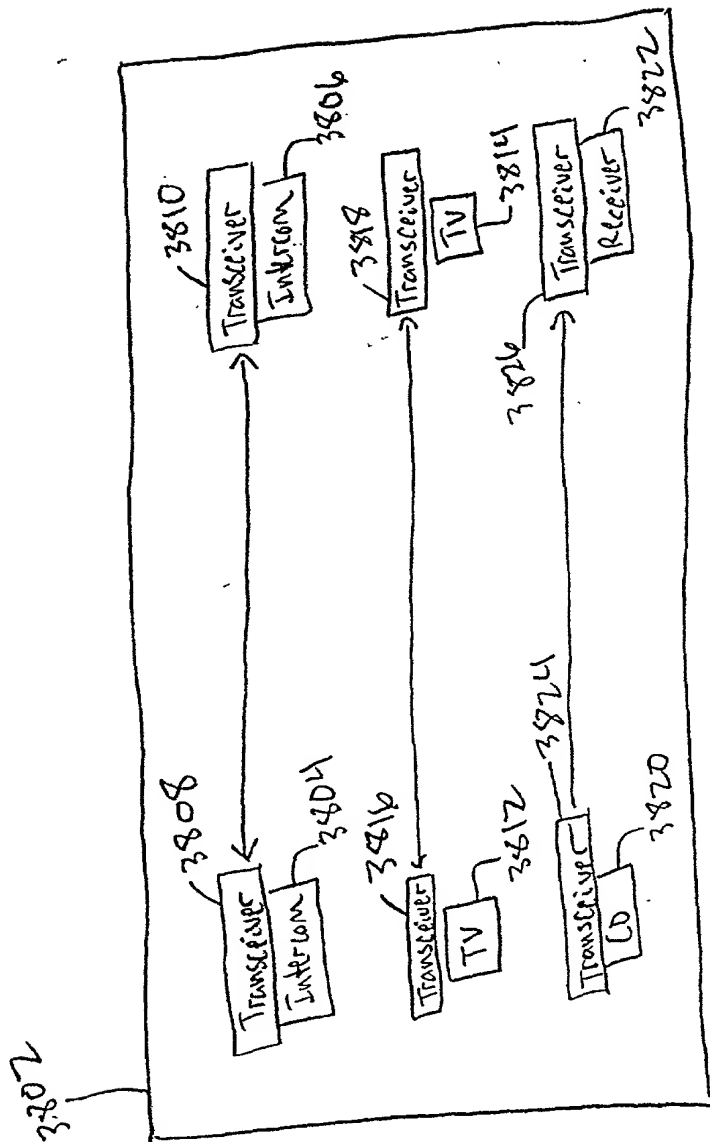


FIG. 38

FIG. 39

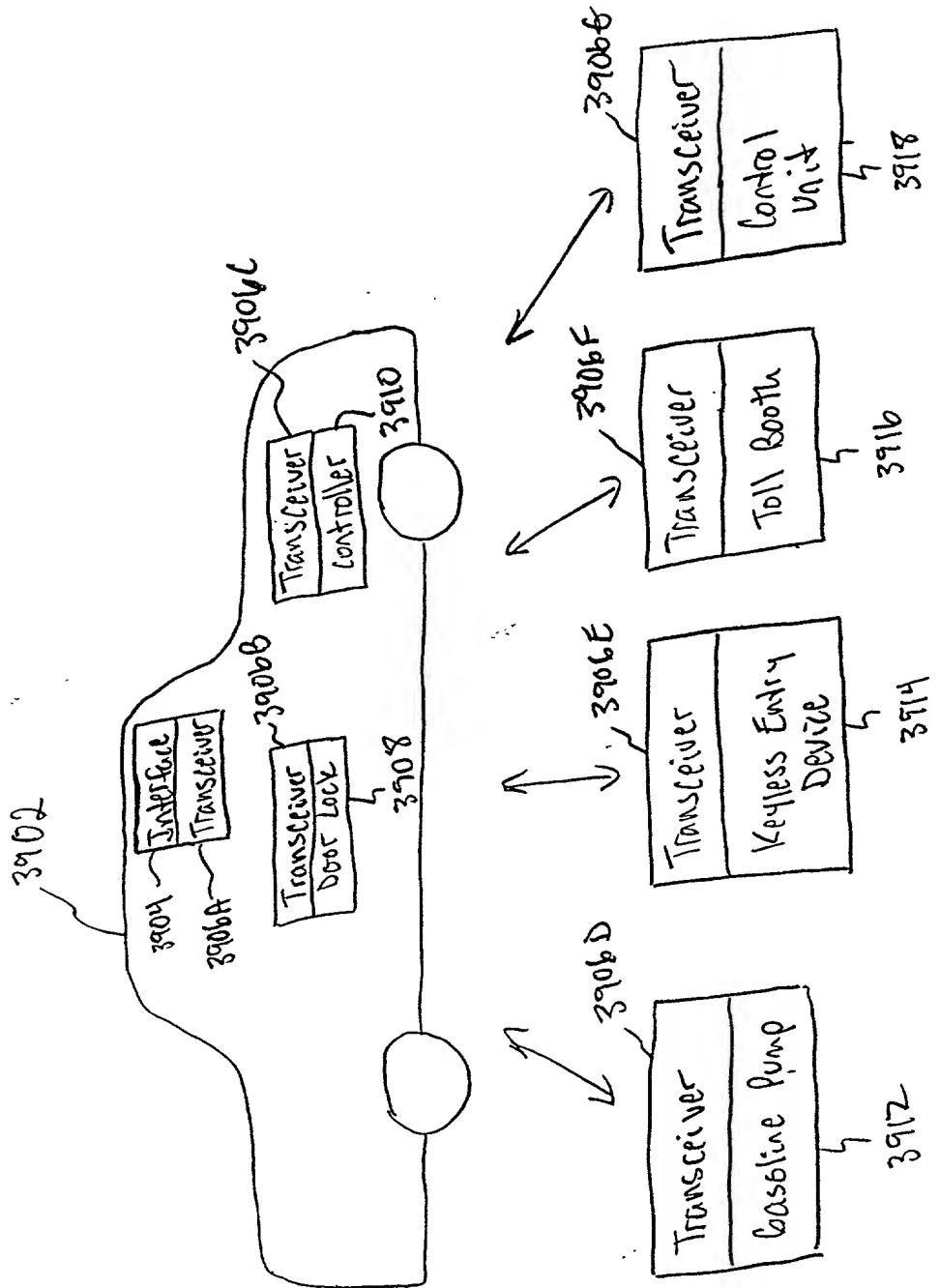


FIG. 39

FIG. 40A

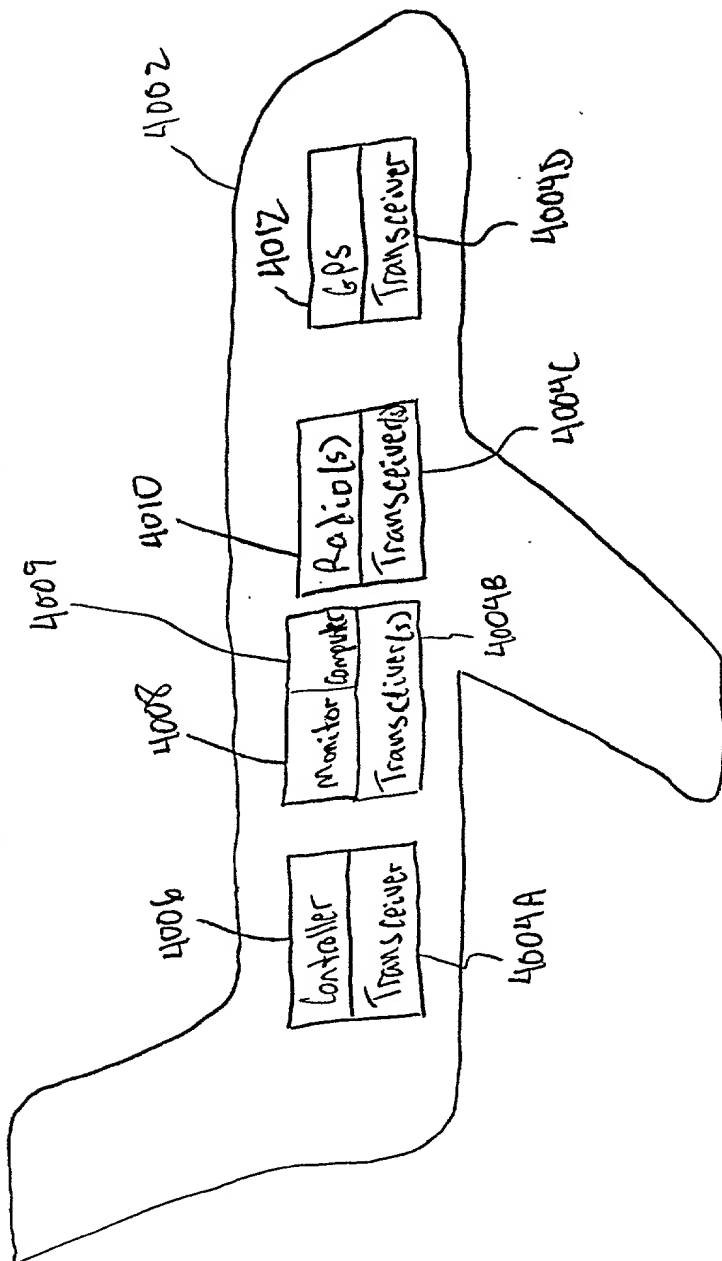


FIG. 40A

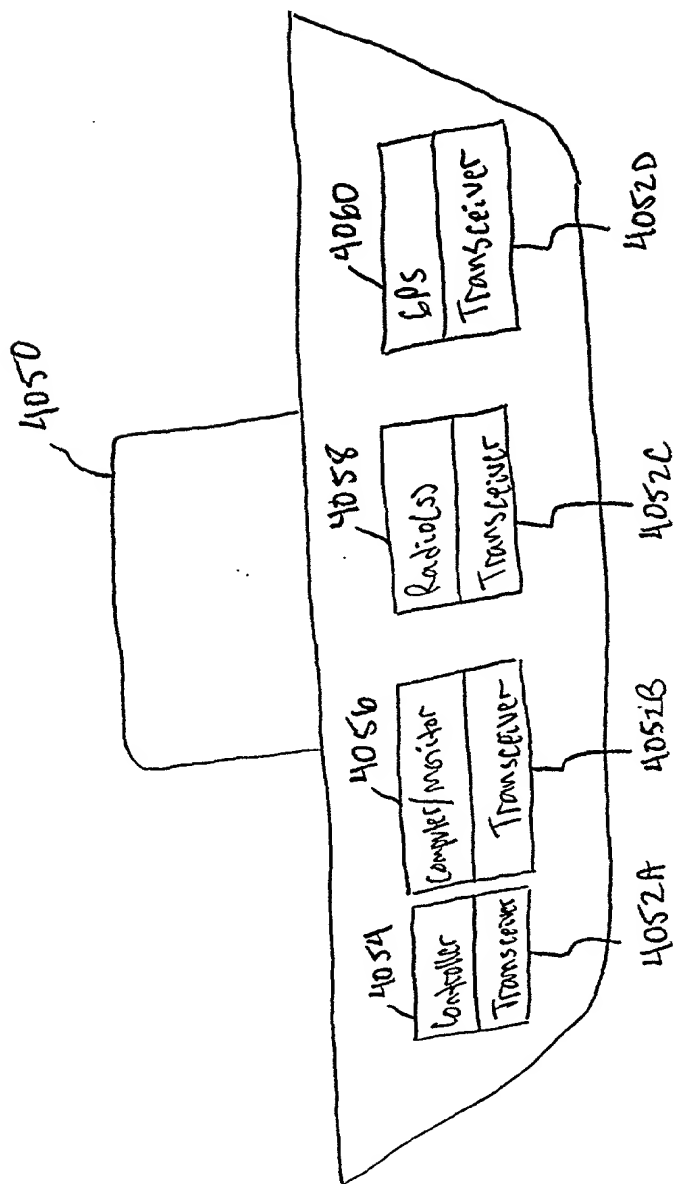


FIG. 40B



FIG. 4

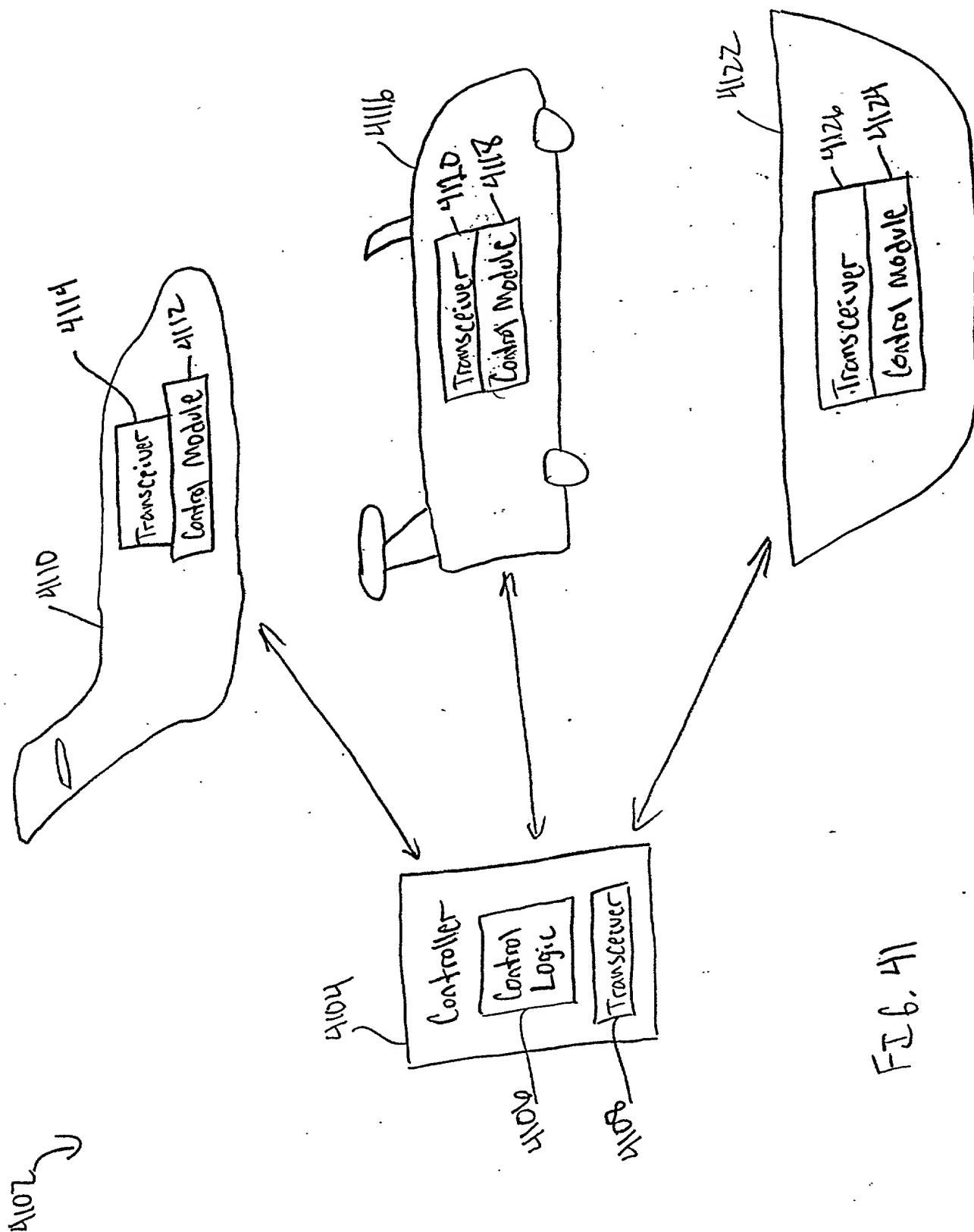


FIG. 4

TABLE 2-20

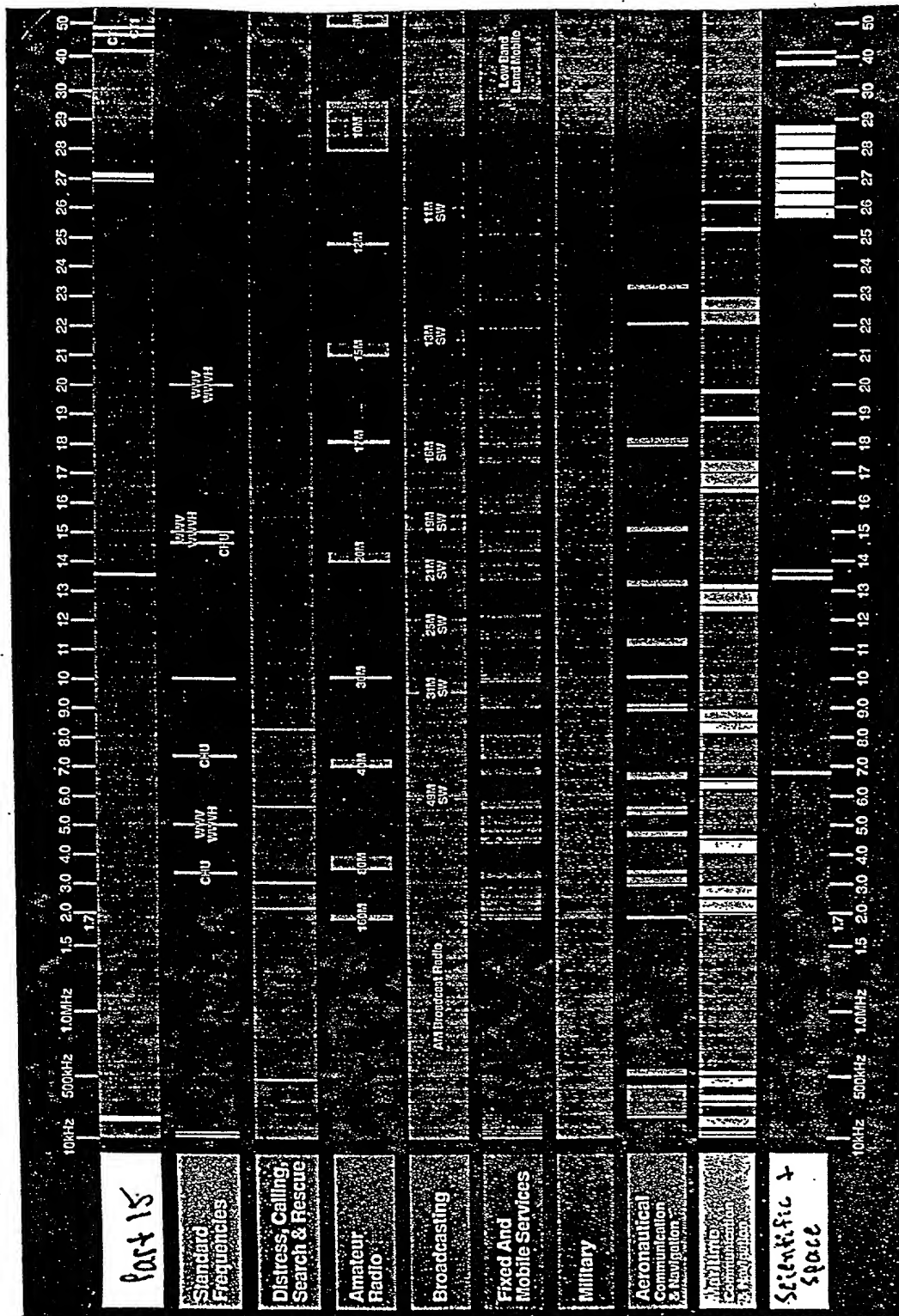
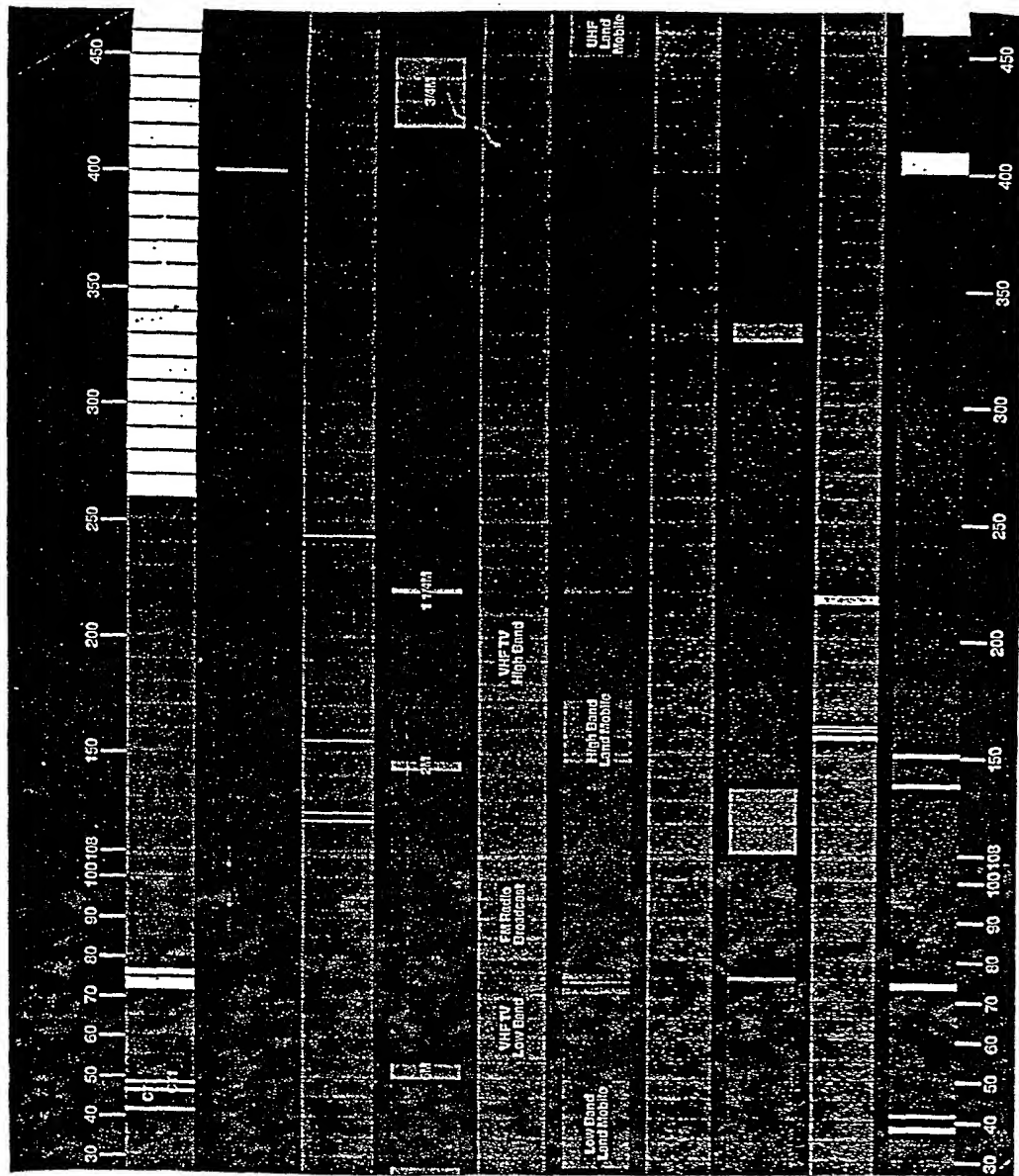


Fig. 42A



FI 6, 428

400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000 3050 3100 3150 3200 3250 3300 3350 3400 3450 3500 3550 3600 3650 3700 3750 3800 3850 3900 3950 4000

Spad Spectrum P II

Spad Spectrum P IV

Standard Frequencies

Distress, Calling, Search & Rescue

Amateur Radio

Broadcasting

Fixed And Mobile Services

Military

Aeronautical Communication & Navigation

Scientific & Space

400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000 3050 3100 3150 3200 3250 3300 3350 3400 3450 3500 3550 3600 3650 3700 3750 3800 3850 3900 3950 4000

Spad Spectrum P II

Spad Spectrum P IV

Standard Frequencies

Distress, Calling, Search & Rescue

Amateur Radio

Broadcasting

Fixed And Mobile Services

Military

Aeronautical Communication & Navigation

Scientific & Space

400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000 3050 3100 3150 3200 3250 3300 3350 3400 3450 3500 3550 3600 3650 3700 3750 3800 3850 3900 3950 4000

Spad Spectrum P II

Spad Spectrum P IV

Standard Frequencies

Distress, Calling, Search & Rescue

Amateur Radio

Broadcasting

Fixed And Mobile Services

Military

Aeronautical Communication & Navigation

Scientific & Space

400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000 3050 3100 3150 3200 3250 3300 3350 3400 3450 3500 3550 3600 3650 3700 3750 3800 3850 3900 3950 4000

Spad Spectrum P II

Spad Spectrum P IV

Standard Frequencies

Distress, Calling, Search & Rescue

Amateur Radio

Broadcasting

Fixed And Mobile Services

Military

Aeronautical Communication & Navigation

Scientific & Space

400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000 3050 3100 3150 3200 3250 3300 3350 3400 3450 3500 3550 3600 3650 3700 3750 3800 3850 3900 3950 4000

Spad Spectrum P II

Spad Spectrum P IV

Standard Frequencies

Distress, Calling, Search & Rescue

Amateur Radio

Broadcasting

Fixed And Mobile Services

Military

Aeronautical Communication & Navigation

Scientific & Space

400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000 3050 3100 3150 3200 3250 3300 3350 3400 3450 3500 3550 3600 3650 3700 3750 3800 3850 3900 3950 4000

Spad Spectrum P II

Spad Spectrum P IV

Standard Frequencies

Distress, Calling, Search & Rescue

Amateur Radio

Broadcasting

Fixed And Mobile

FIG. 42C

FIG. 42A

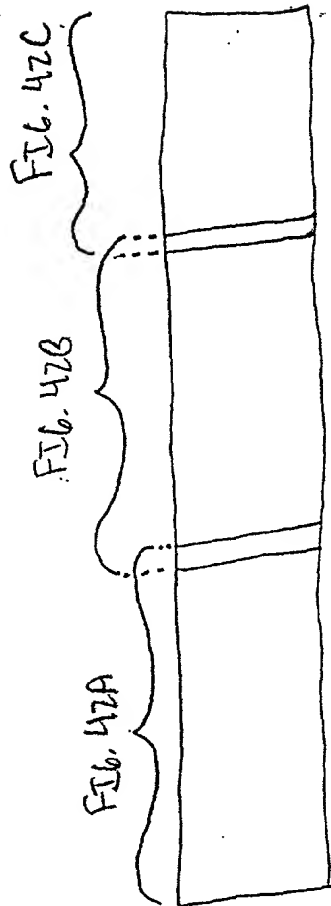


FIG. 42D

FIG. 43

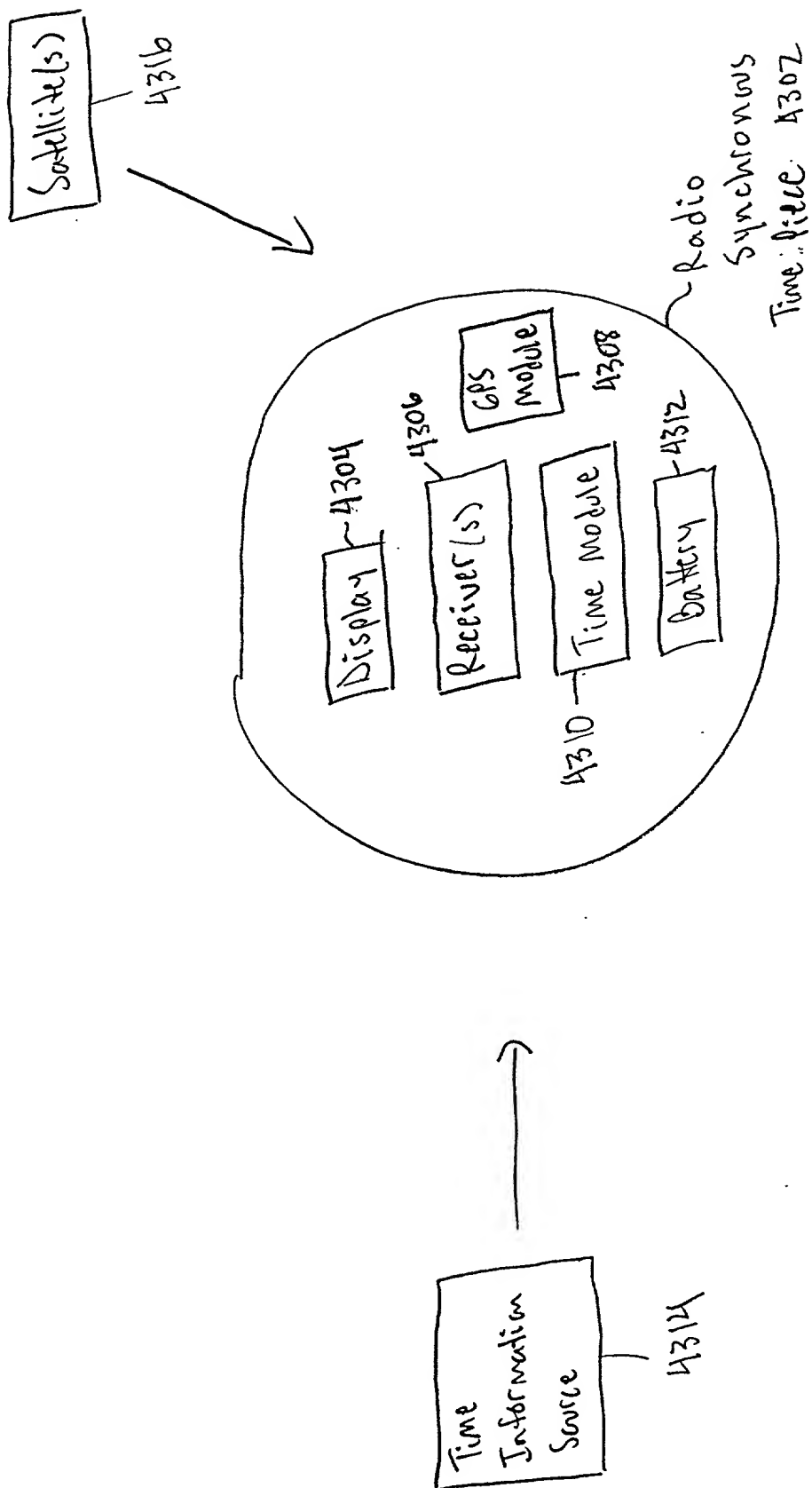


FIG. 43

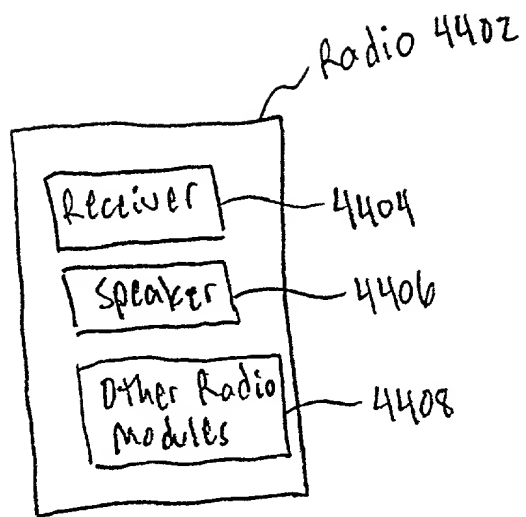


FIG. 44

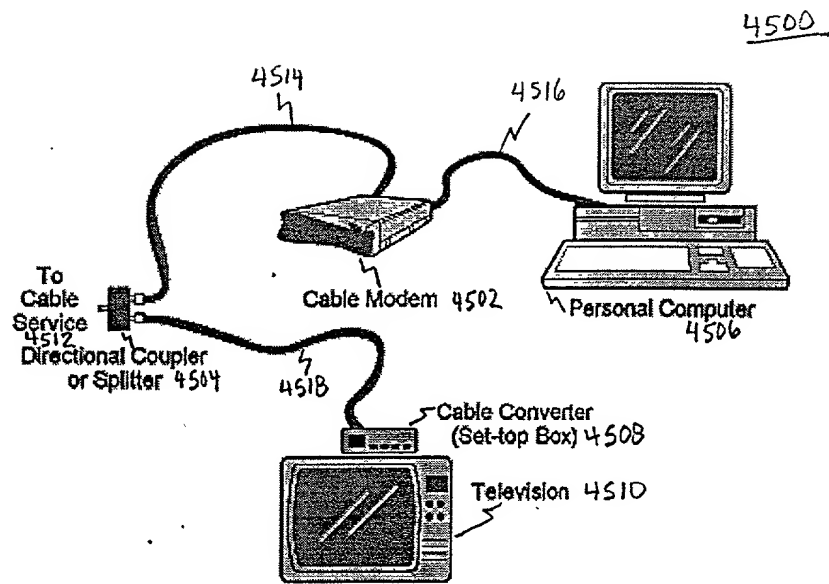


FIG. 45A

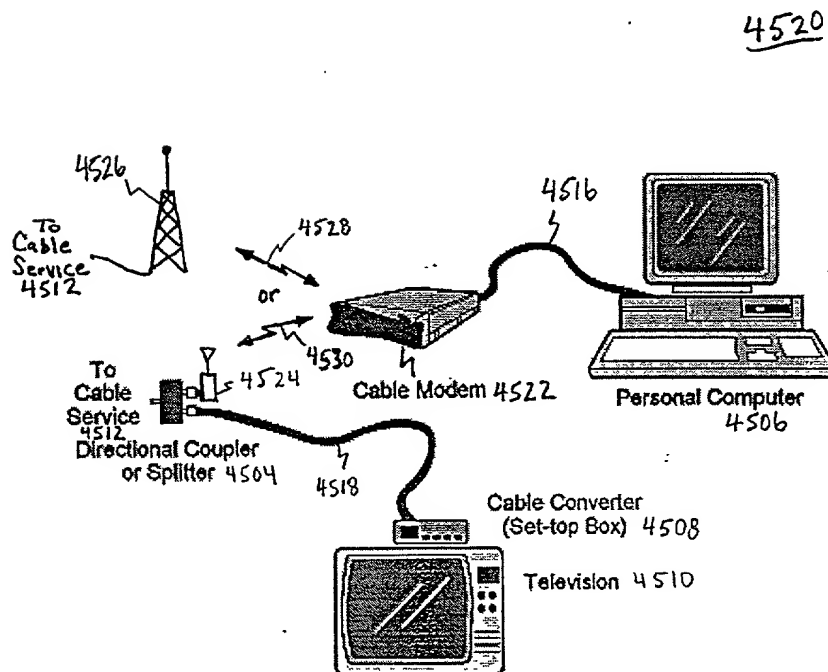


FIG. 45B



FIG. 45C

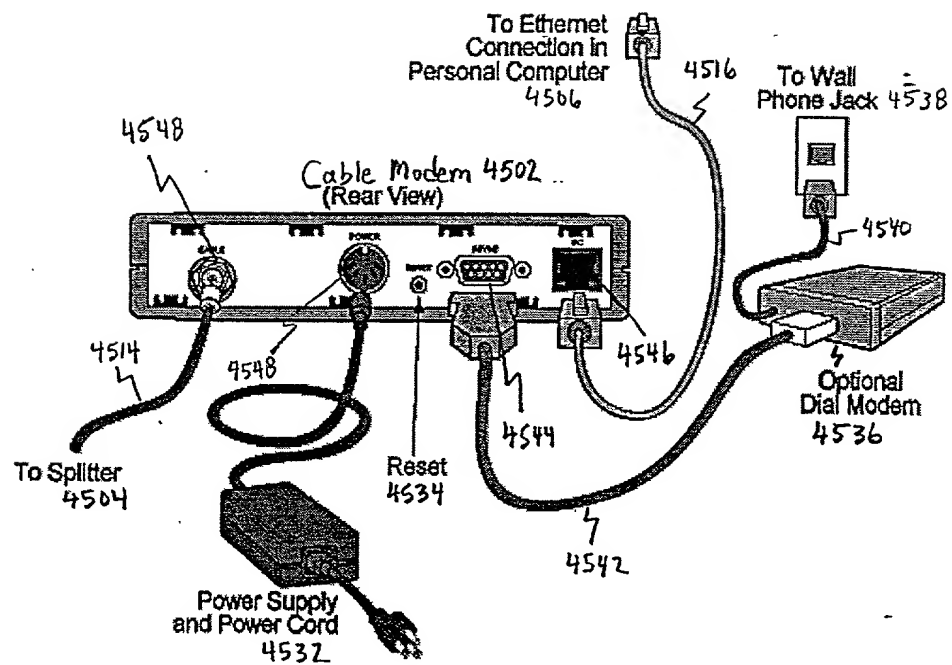


FIG. 45C

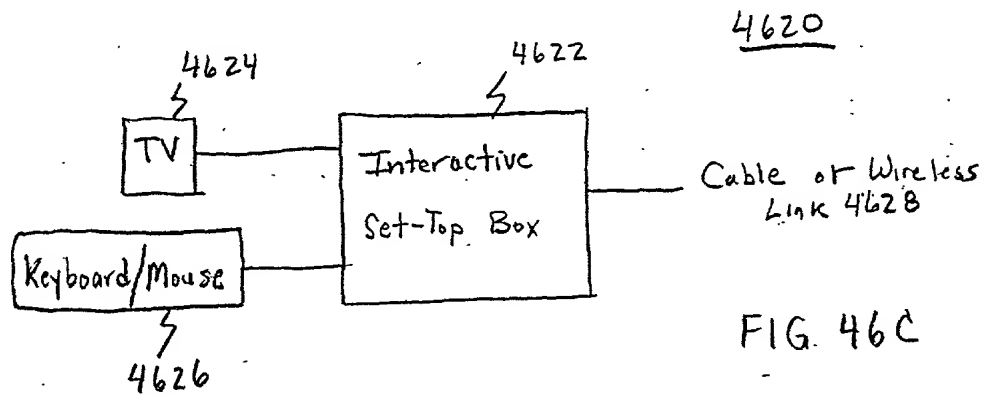
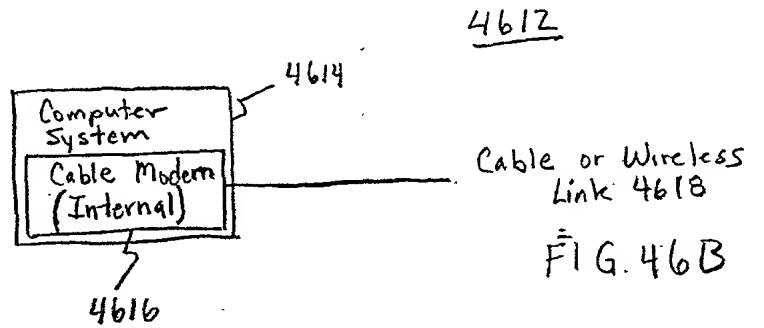
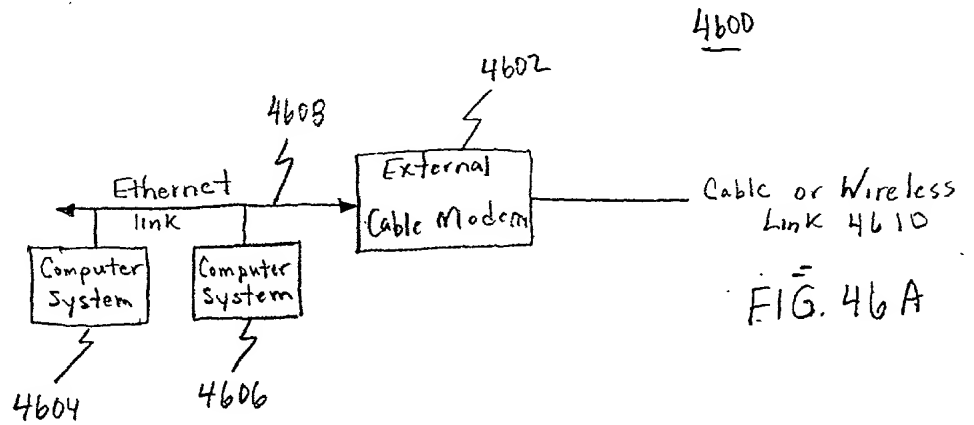


FIG. 47

4700

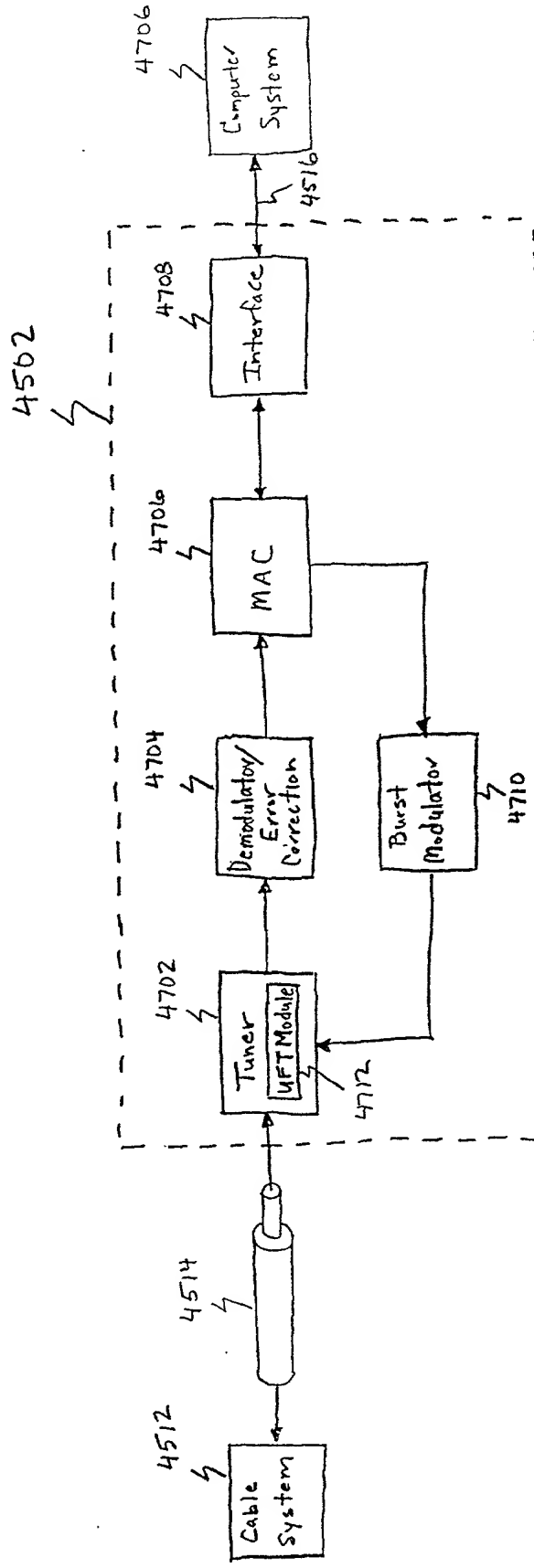


FIG. 47

105212 2/20/88

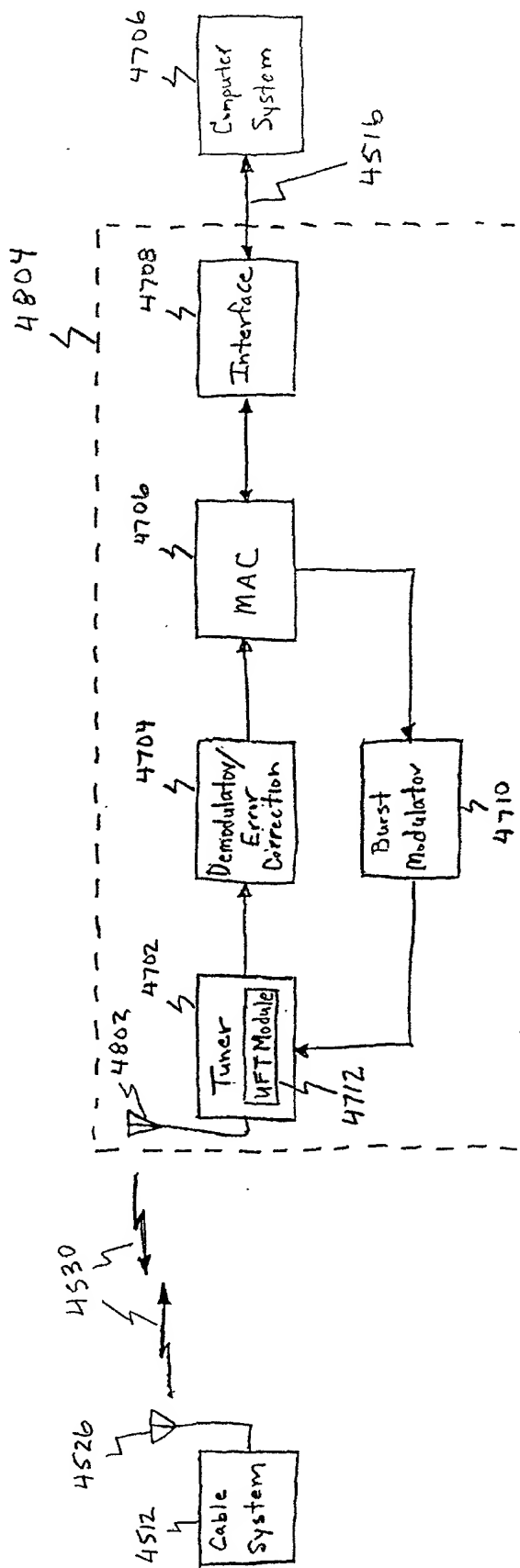


FIG. 48

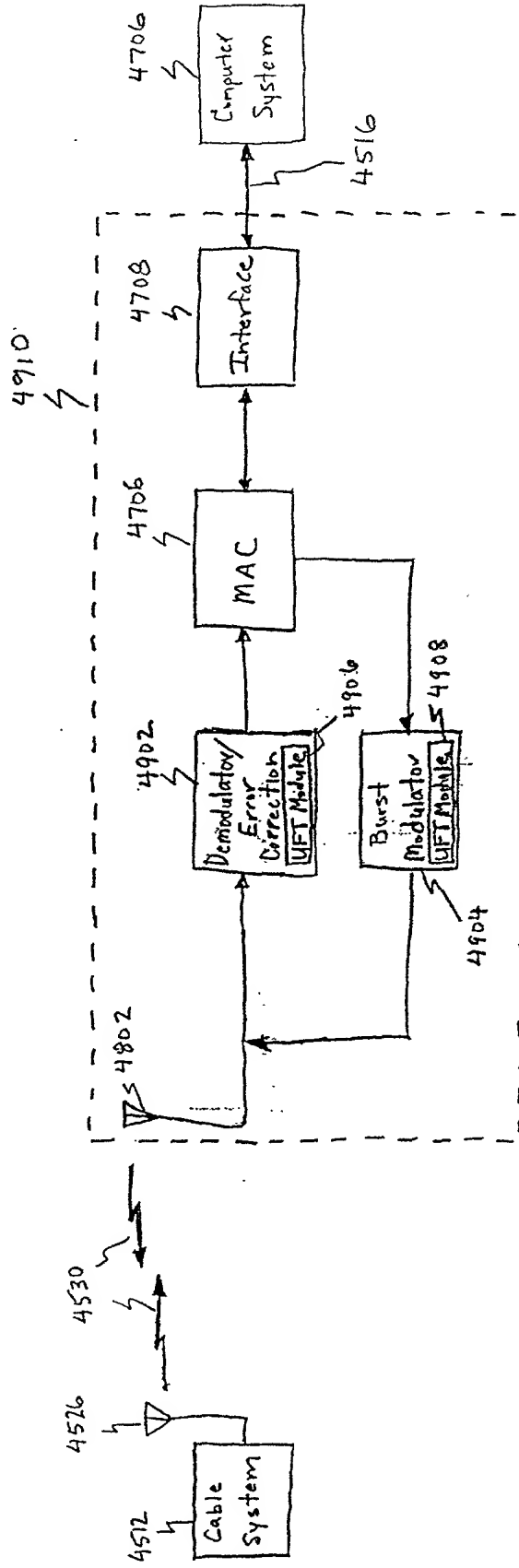


FIG. 49

FIG. 50

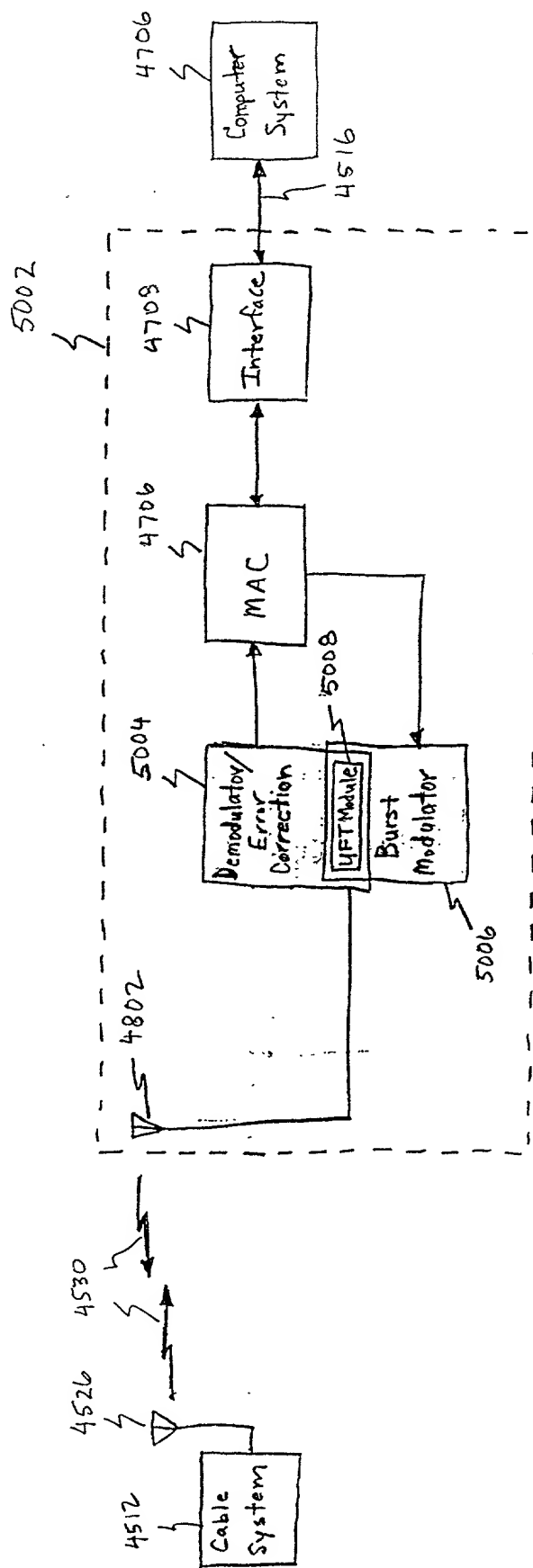


FIG 50

FIG. 51

5100

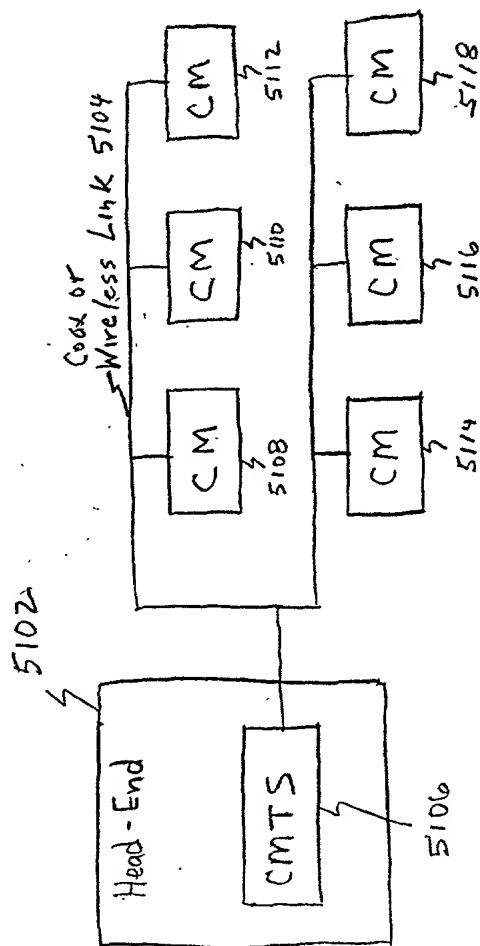


FIG. 51

FIG. 52

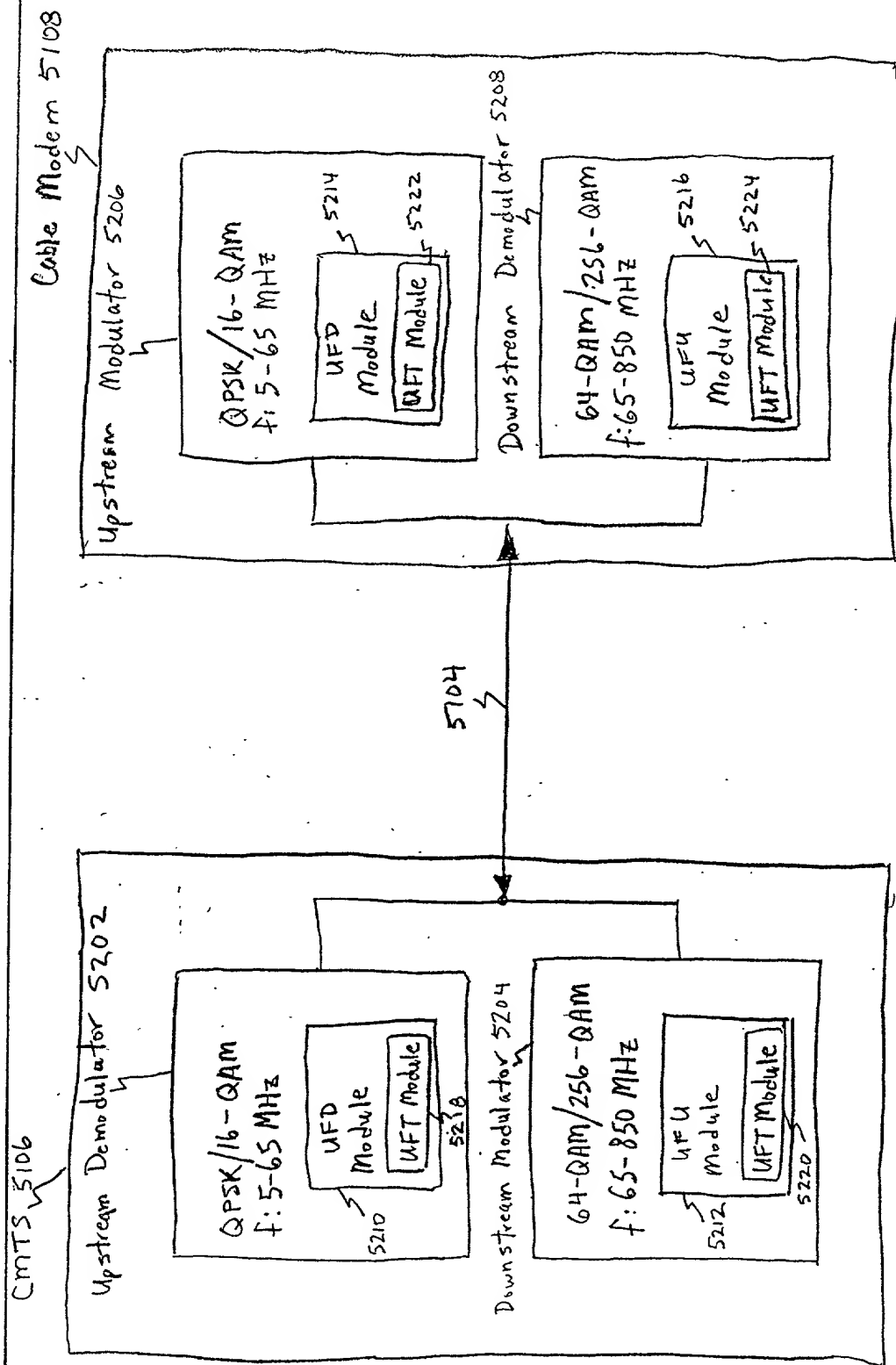


FIG. 52



FIG. 53

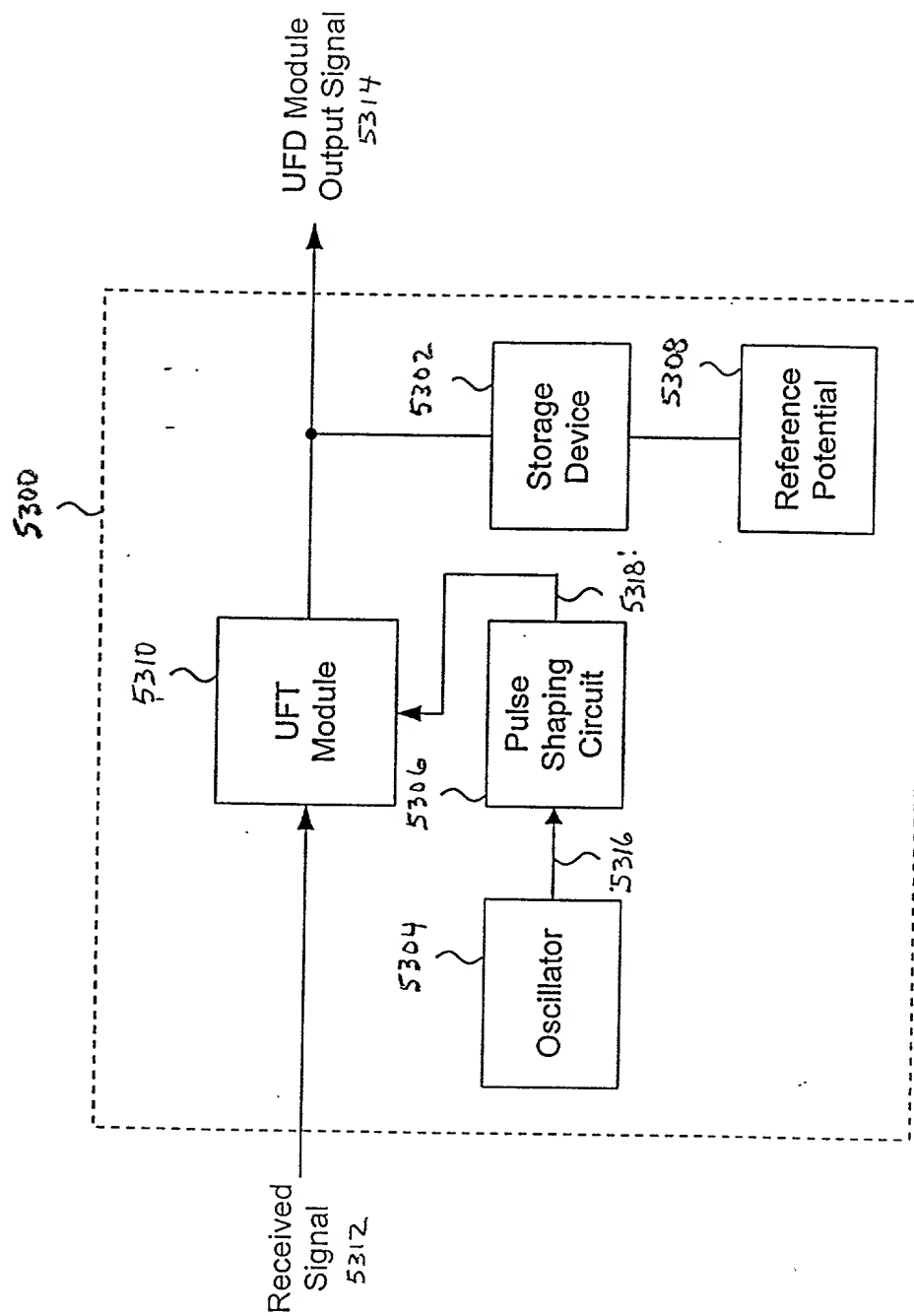


FIG. 53

FIG. 54A

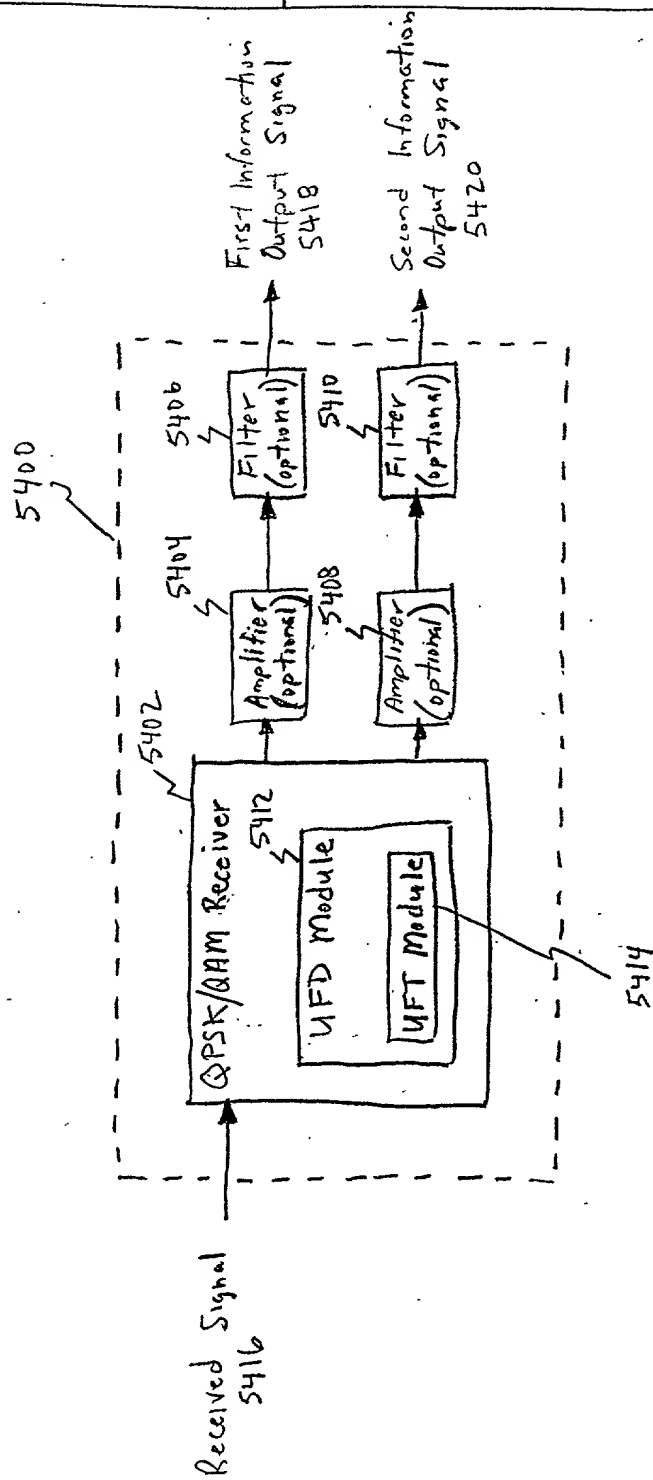


FIG. 54A

FIG. 54A

5400

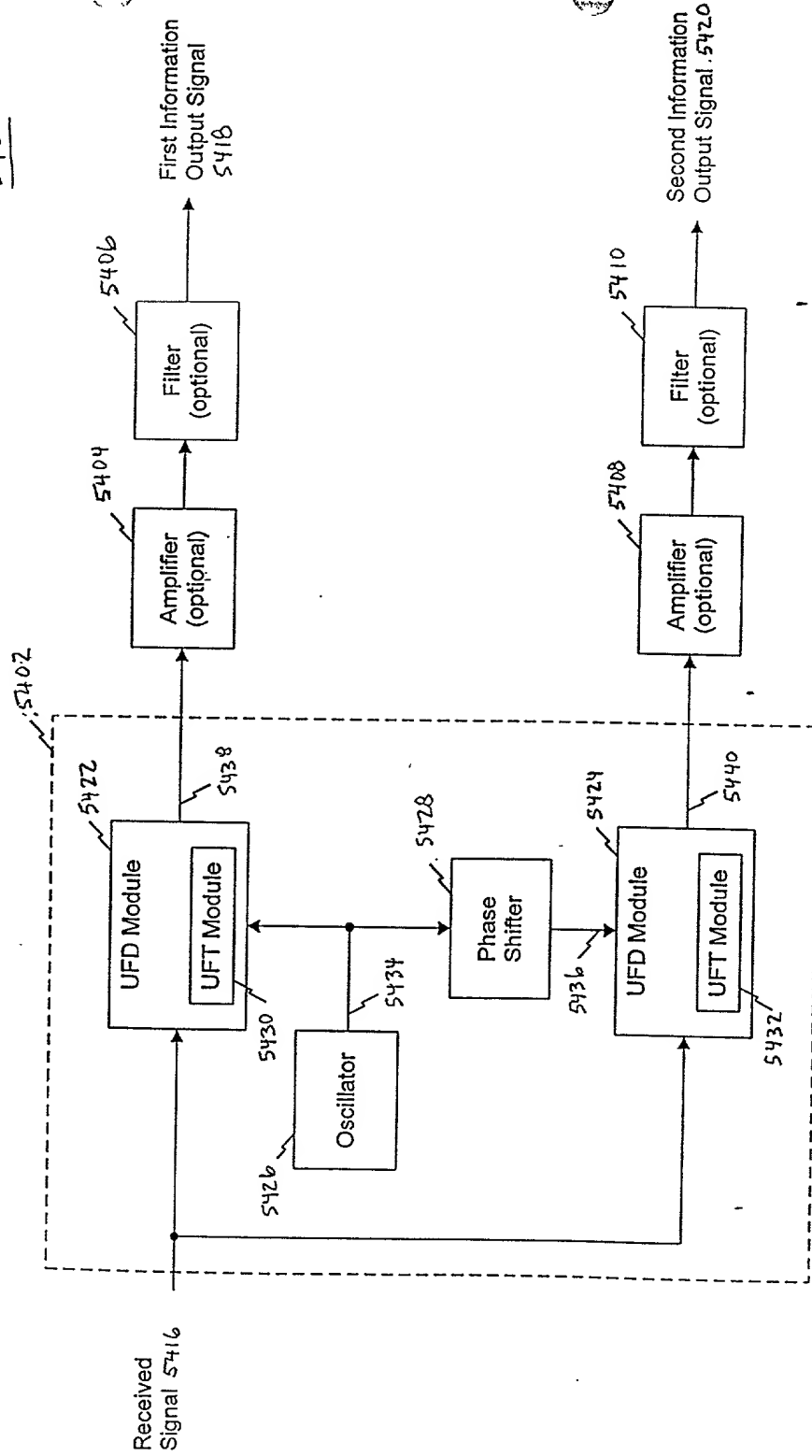


FIG. 54B

FIG. 55

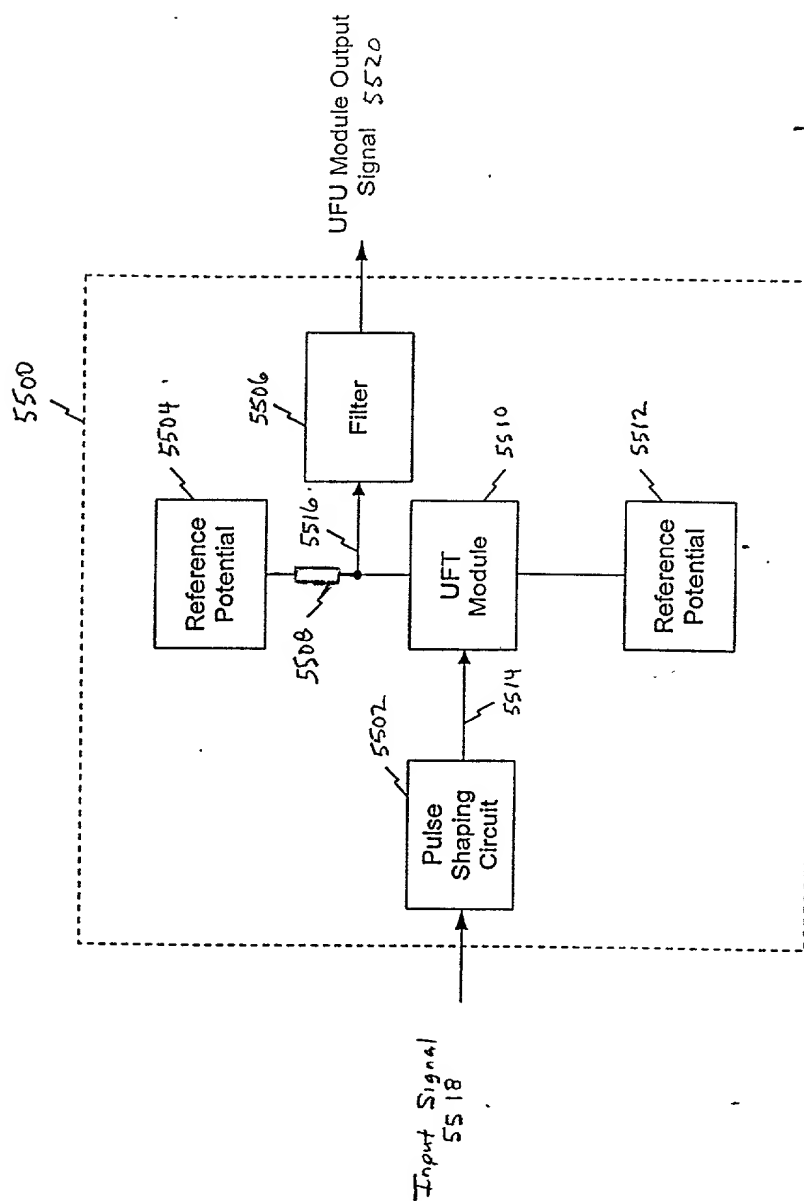


FIG. 55

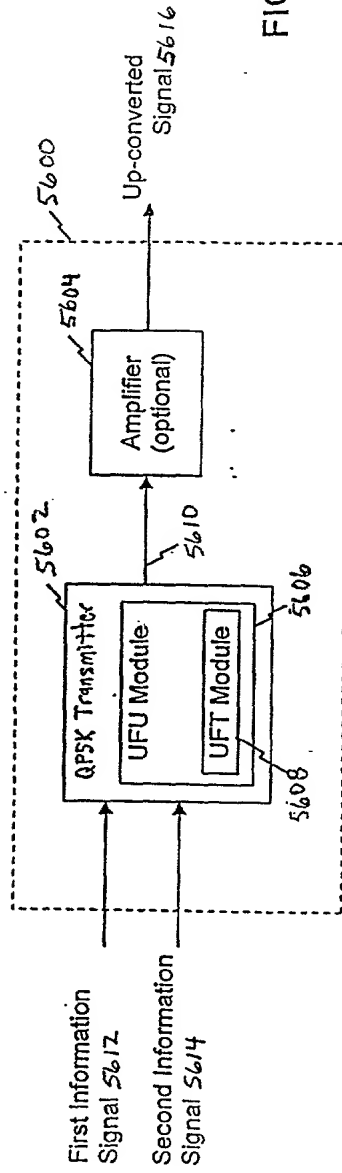


FIG. 56

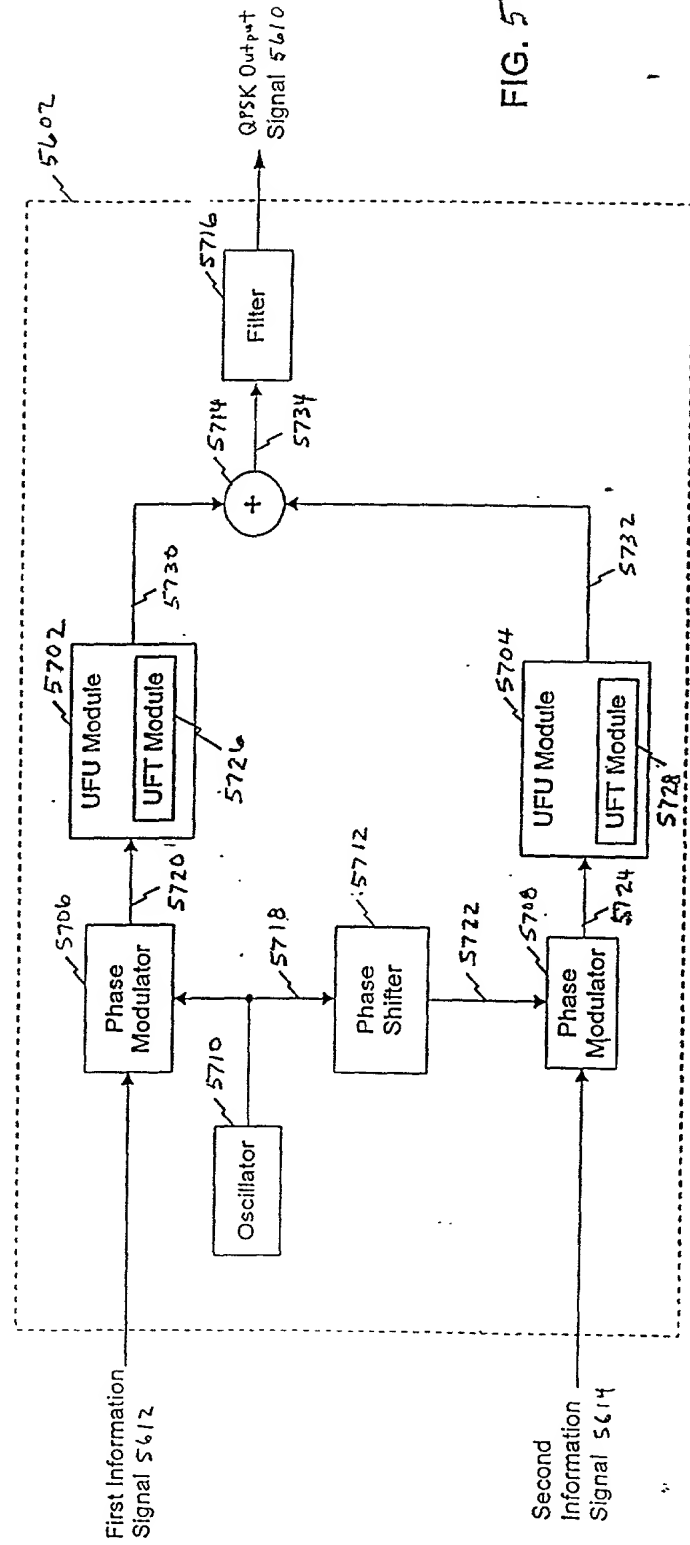


FIG. 57

FIG. 5B

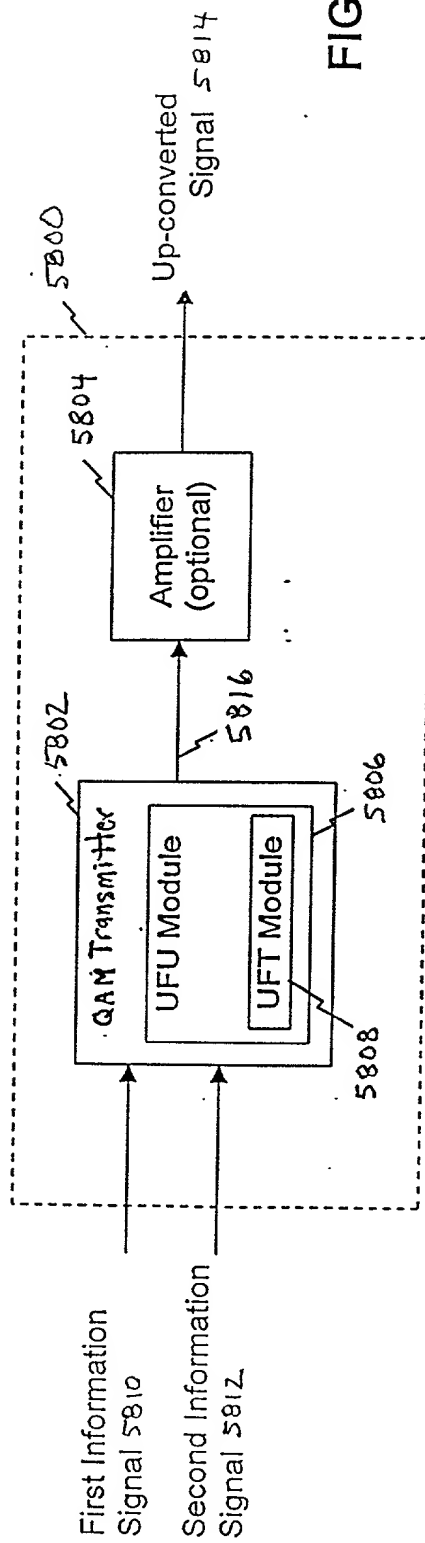
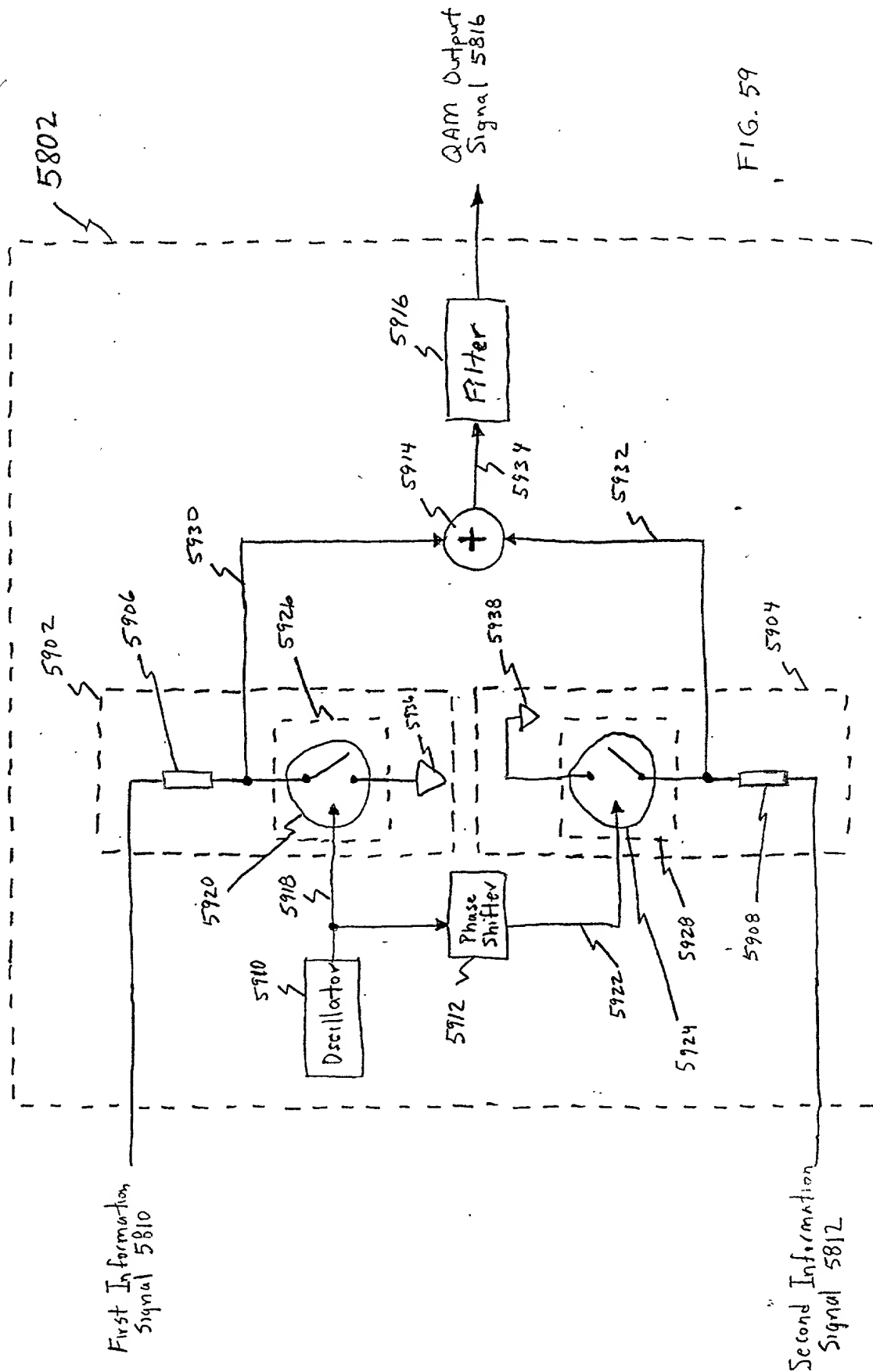


FIG. 5B



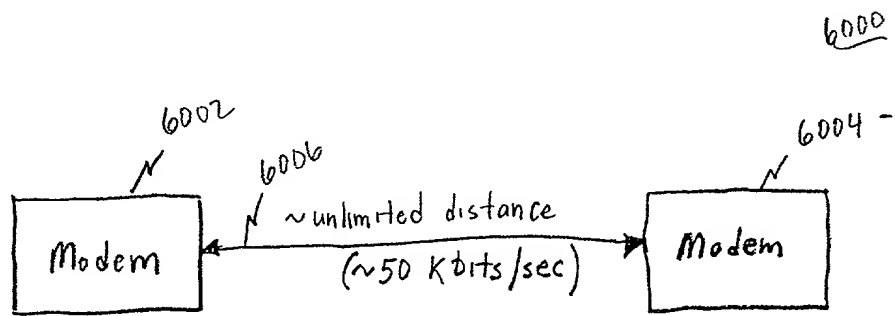


FIG. 60

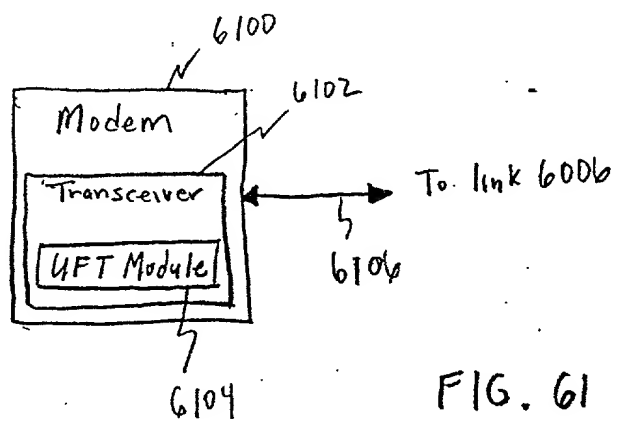


FIG. 61



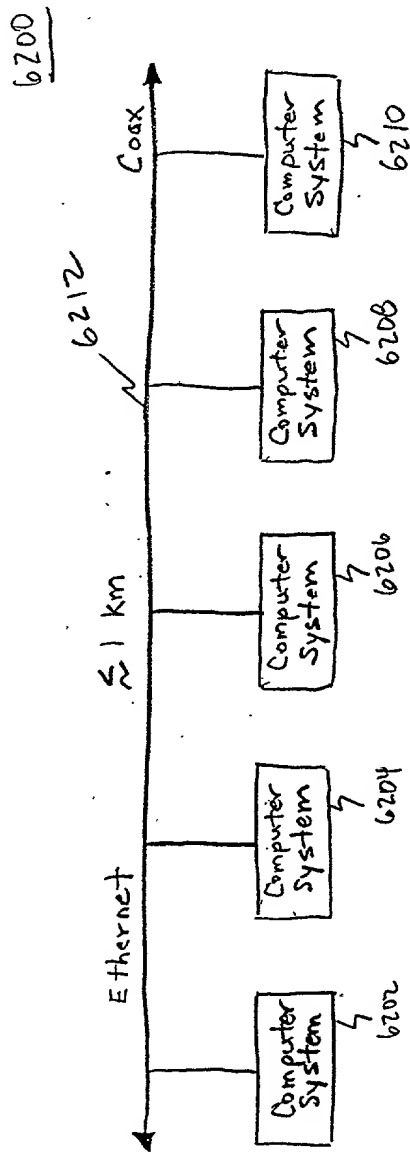


FIG. 62

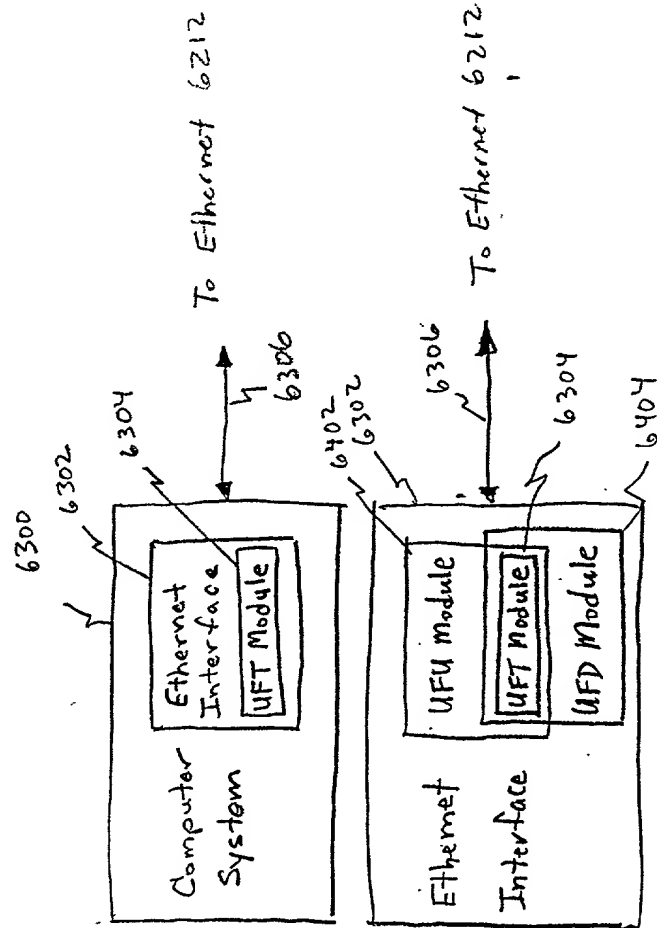


FIG. 63

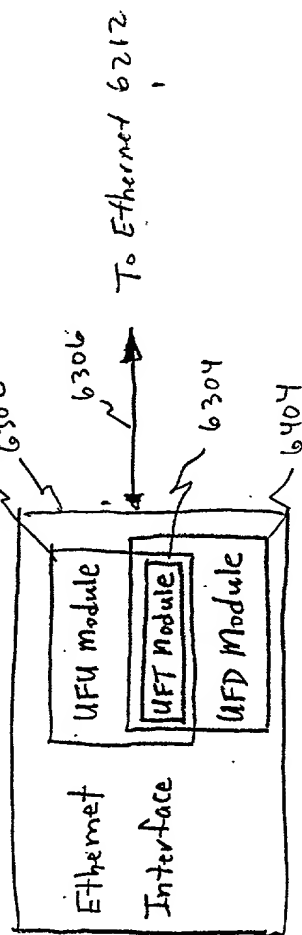


FIG. 64



FIG. 65

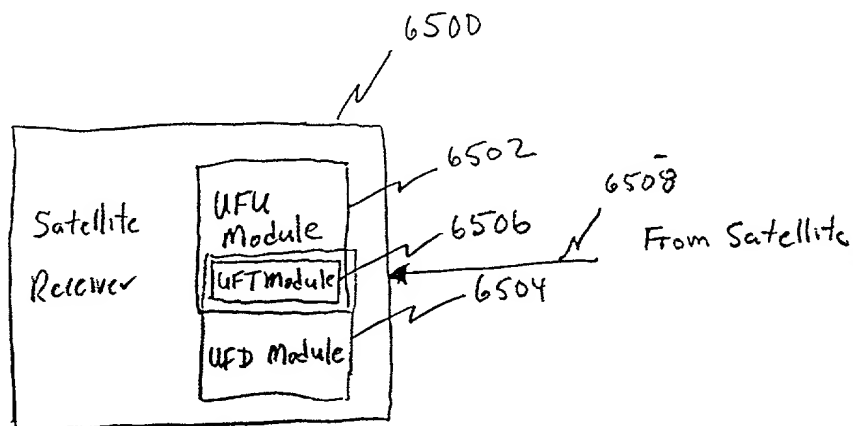


FIG. 66

